

Service Manual

PIONEER
The future of sound and vision.

• KEH-M5000QR/ES



ORDER NO.
CRT 1236

MULTI-CD CONTROL FM/MW/LW TUNER AMPLIFIER

KEH-M5000SDK

WG

KEH-M5000B

EW

MULTI-CD CONTROL FM/AM TUNER DECK AMPLIFIER

KEH-M5000QR

ES

Note:

- See the service manual KEX-M800 (CRT1234) for the cassette mechanism description.

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- Noise Reduction System manufactured under license from Dolby Laboratories Licensing Corporation.

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EK JULY 1989 Printed in Japan

7. ADJUSTMENT

- **Connection Diagram**

NOTICE:

Select C1 so that total capacity of 80pF is attained from the direction of the receiver jack.

Z: Output impedance of SSG.

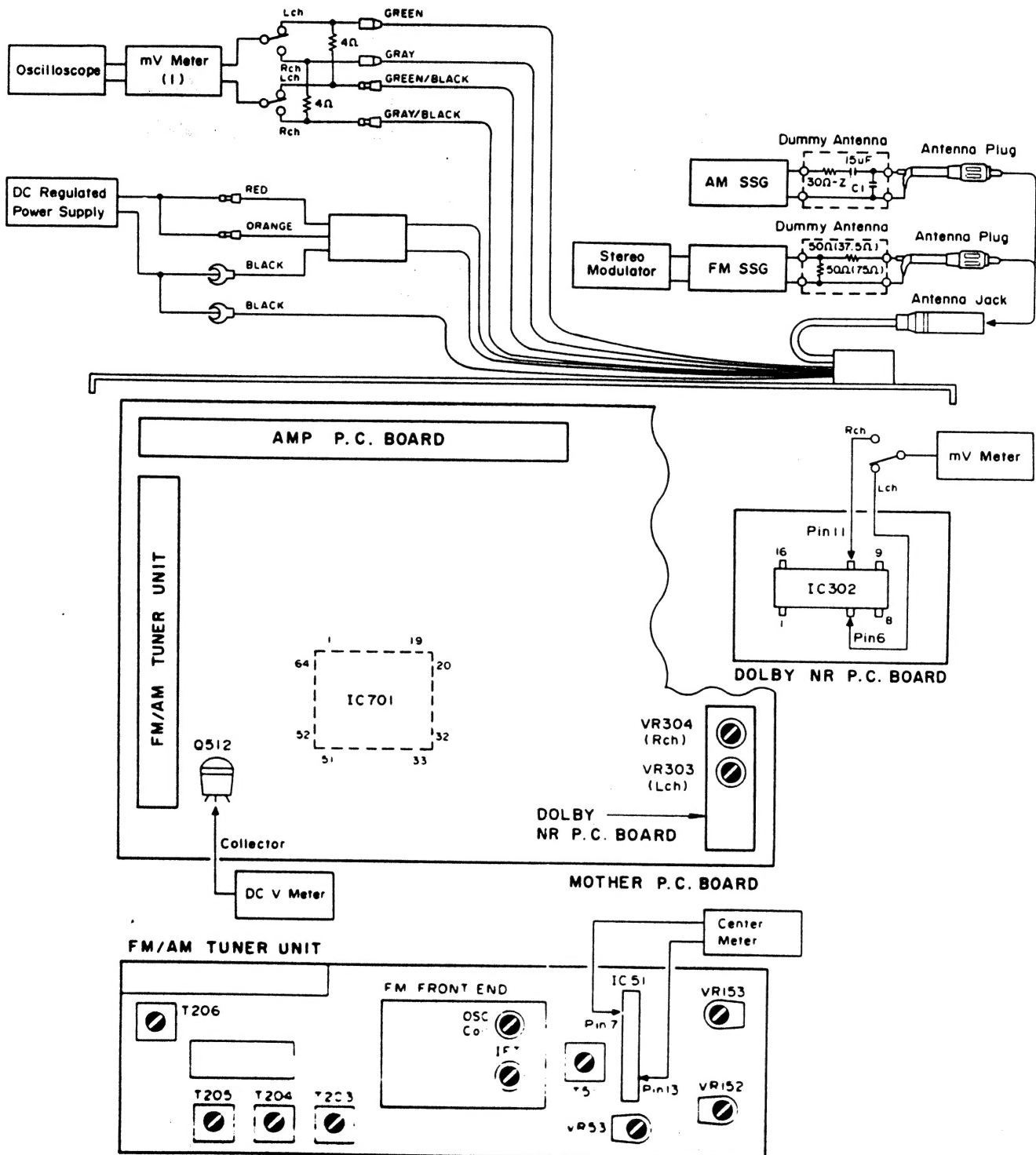


Fig 1

DOLBY NR LEVEL ADJUSTMENT

No.	Cassette Tape	Adjusting Point	Adjustment Method (Switch Position)
1	NCT-150 (400Hz, 200nwb/m)	VR303 (Lch), VR304 (Rch)	mV Meter: $-7.2\text{dB} \pm 1\text{dB}$ (Dolby NR Switch: OFF, METAL Switch: OFF)

MW/LW ADJUSTMENT (KEH-M5000SDK/WG, KEH-M5000B/EW)

	No.	AM SSG (400Hz, 30%)		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (kHz)	Level (dB μ V)			
Tuning Volt	1	(MW Mode)		1.602	T203	DC V Meter: Less than 7.0V
	2	(LW Mode)		153		Verify that DC V Meter is more than 2.0V
IF	1	999	20-25	999	T204, T205, T206	mV Meter (1): Maximum

AM ADJUSTMENT (KEH-M5000QR/ES) * (When 9kHz tuning steps)

	No.	AM SSG (400Hz, 30%)		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (kHz)	Level (dB μ V)			
Tuning Volt	1			1.710 *(1.602)	T203	DC V Meter: Less than 7.0V
	2			530 *(531)		Verify that DC V Meter is more than 2.0V
IF	1	1.000 *(999)	20-25	1.000 *(999)	T204, T205, T206	mV Meter (1): Maximum

FM ADJUSTMENT *Stereo MOD.: 1kHz, L+R=90%, Pilot=10% *: ES model when tuning step at 200kHz.

	No.	FM SSG (400Hz, 100%)		Displayed Frequency (MHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (MHz)	Level (dB μ V)			
Tuning Volt	1			108.0 *(107.9)	OSC Coil (FM Front End)	DC V Meter: 7.0V
IF	1	98.1 Unmodulated	60	98.1	T51	Center Meter: 0
	2	98.1	5	98.1	IFT (FM Front End)	mV Meter (1): Maximum
Mute	1	98.1	60	98.1		mV Meter (1): A dB (This output is A)
	2	98.1	10	98.1	VR53	mV Meter (1): A-3dB
ARC	1	98.1※	60	98.1	VR153	mV Meter (1): Separation Maximum (Stereo Position)
	2	98.1※	35	98.1	VR152	mV Meter (1): Separation 5dB (Stereo Position)

8. DISASSEMBLY

• Removing the Handle Assy

1. Remove the four screws.
2. Press the tabs at four locations indicated by arrows, and then pull out the handle assy.

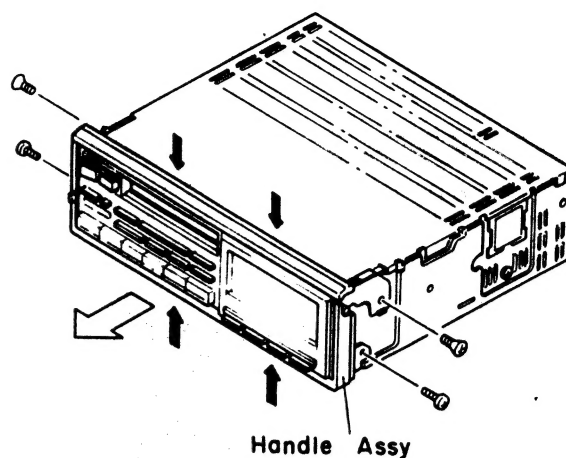


Fig. 2

• Removing the Case

1. Insert and turn a flat screwdriver to remove the case.
2. Raise the case to remove.

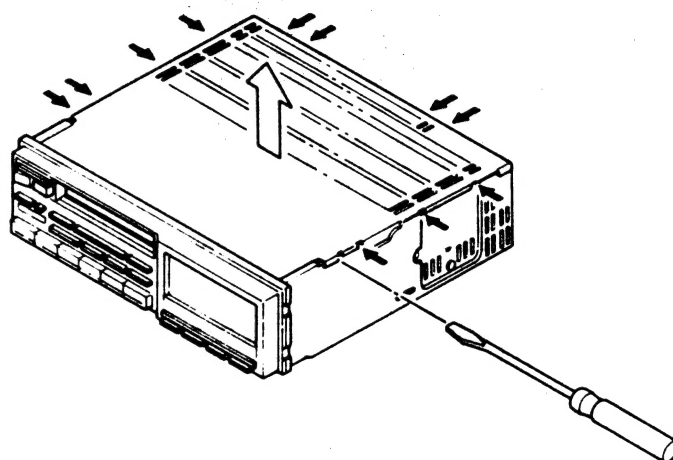


Fig. 3

• Removing the Cassette Mechanism Assy

1. Remove the four screws.
2. Disconnect the mechanism control unit connector.
3. Remove the cassette mechanism assy.

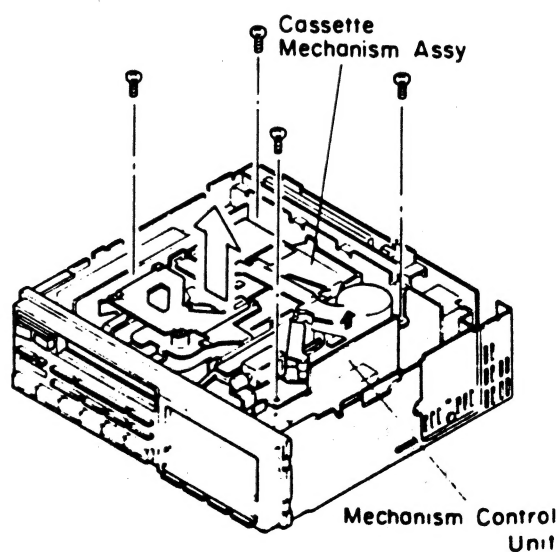


Fig. 4

• Removing the Grille Assy

1. Disconnect the two connectors.
2. Press the tabs at three locations indicated by arrows, and then pull out the grille assy.

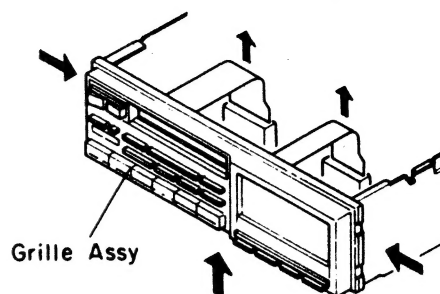


Fig. 5

• Removing the Tuner Amp Unit

1. Remove the five screws, and remove the cord assy.
2. Unbend the tabs at three locations indicated by arrows until straight.
3. Remove the solder indicated by arrow A.
4. Disconnect the connector.
5. Raise up on tuner amp unit to remove it from chassis unit.

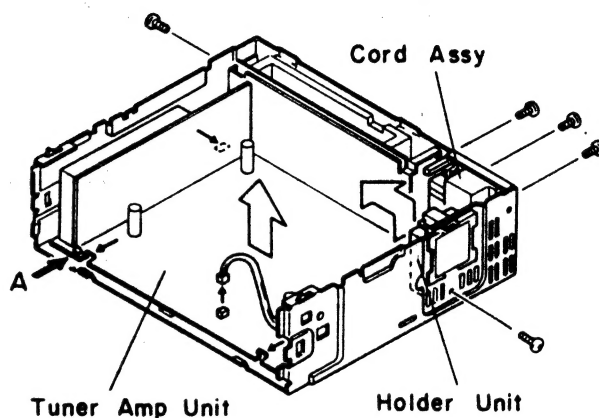


Fig. 6

• Removing the Dolby NR P.C. Board, Amp P.C. Board and FM/AM Tuner Unit

1. Remove the solder and unbend the tabs on back of each unit circuit board until straight.
2. Pull out unit as shown in illustration.

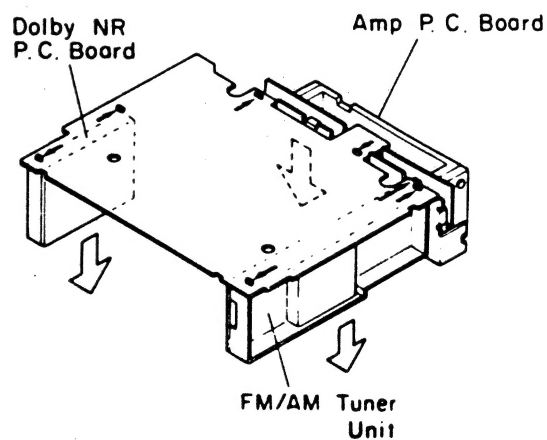


Fig. 7

• Removing the Display Unit

1. Remove the four screws.
2. Press the tabs at four locations indicated by arrows, and then pull out the display unit.

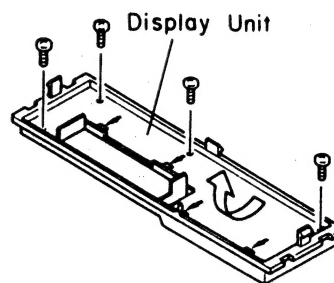


Fig. 8

9. REMOTE CONTROL ASSY (KEH-M5000QR/ES)

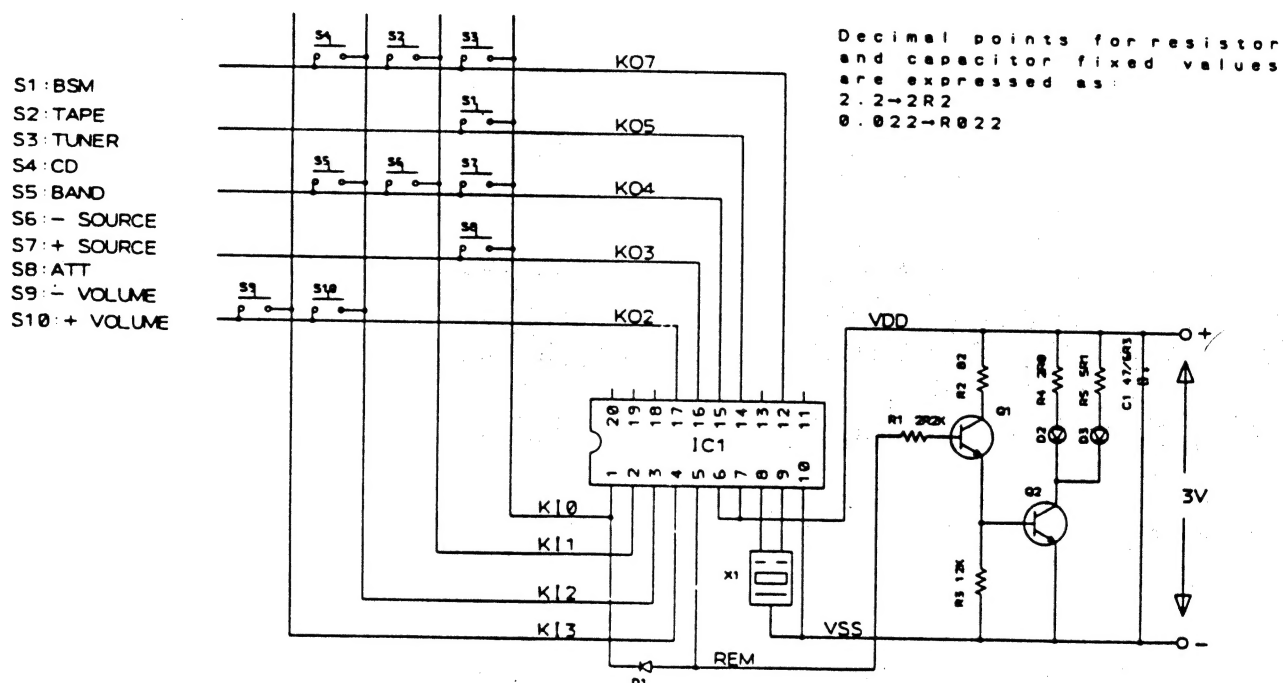


Fig. 9

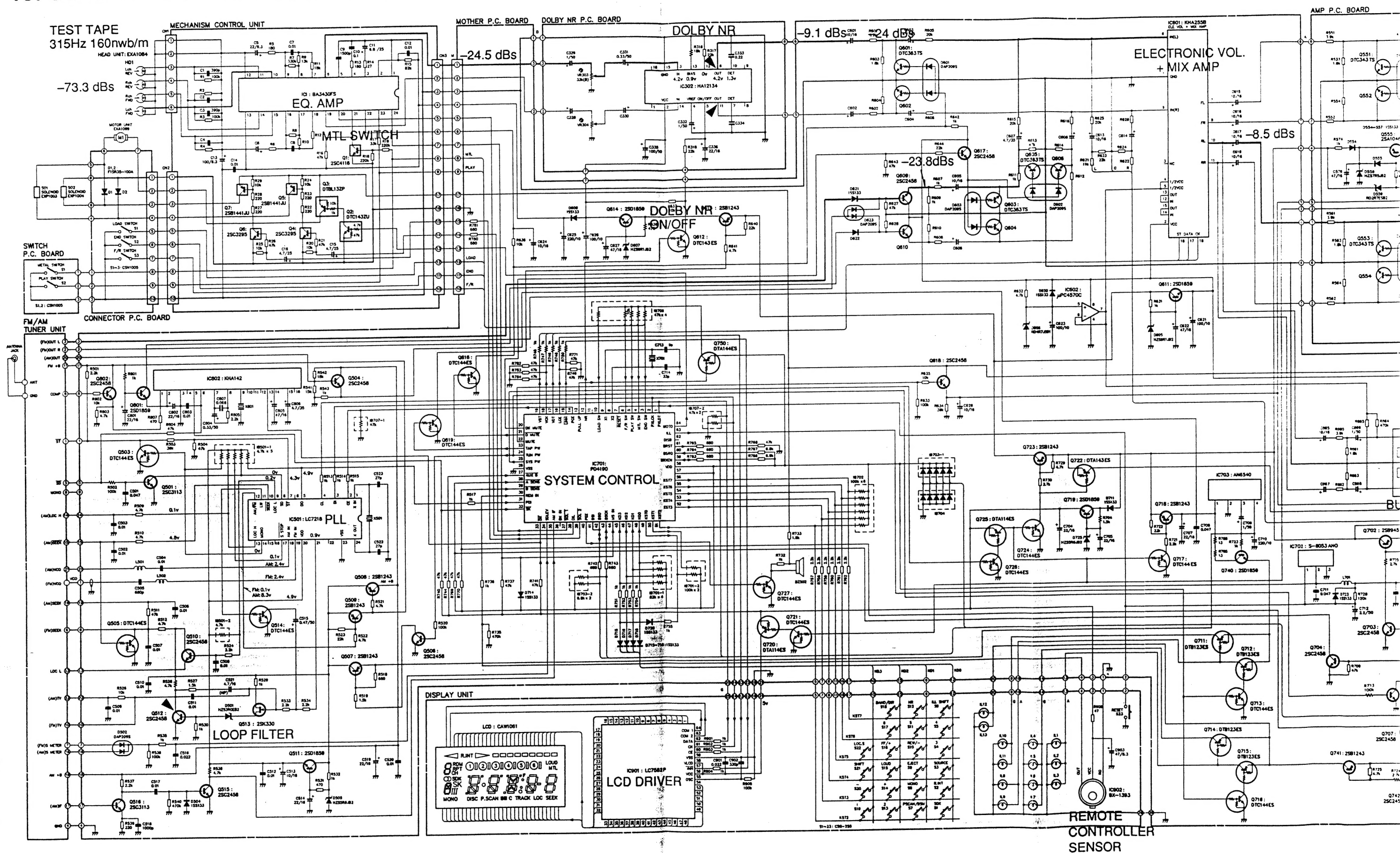
10. SCHEMATIC CIRCUIT DIAGRAM (KEH-M5000SDK/WG)

A

B

C

D



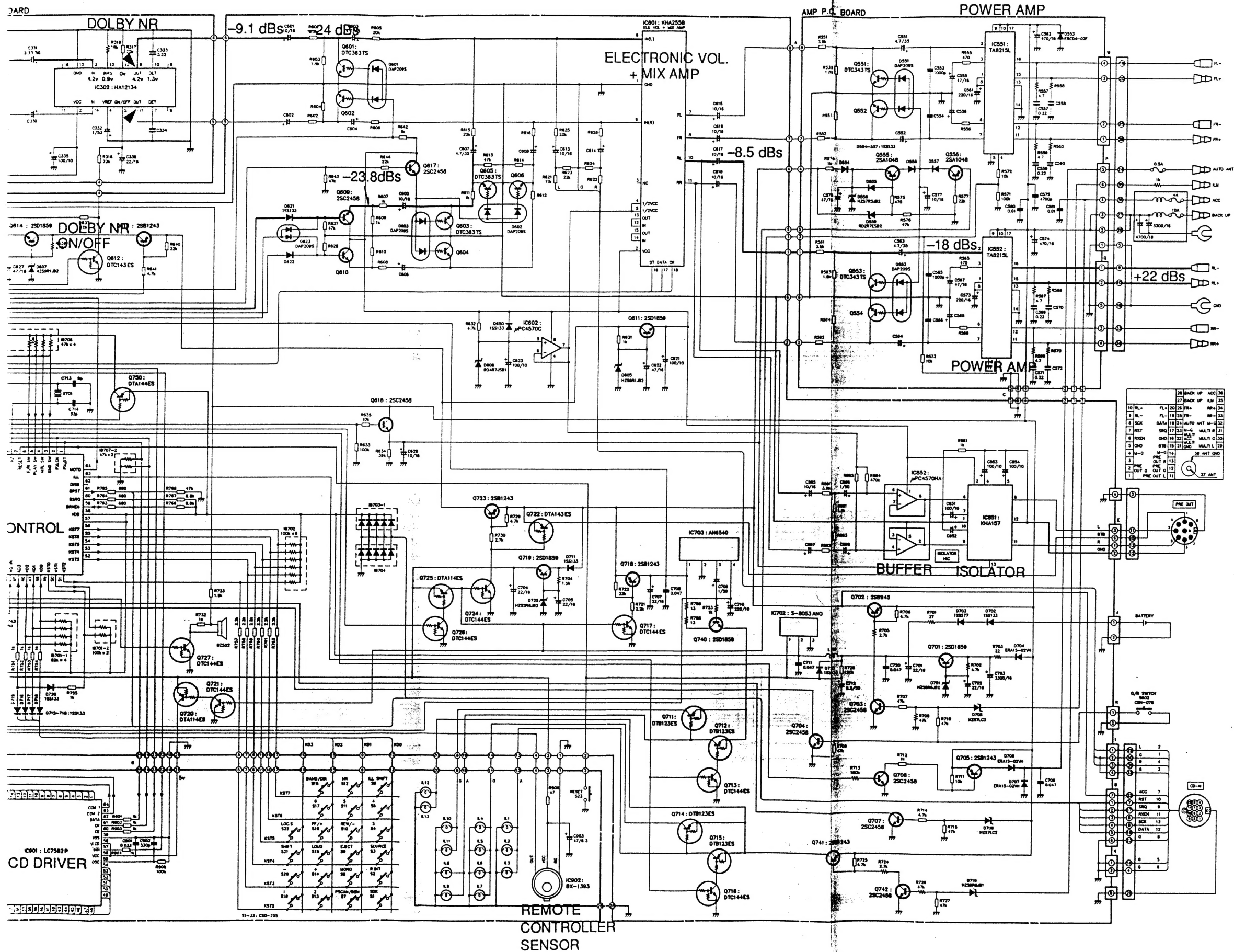
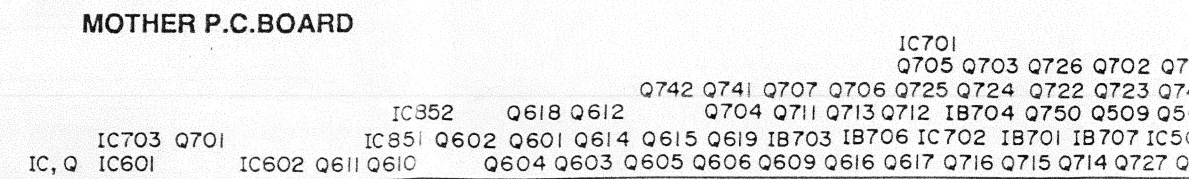
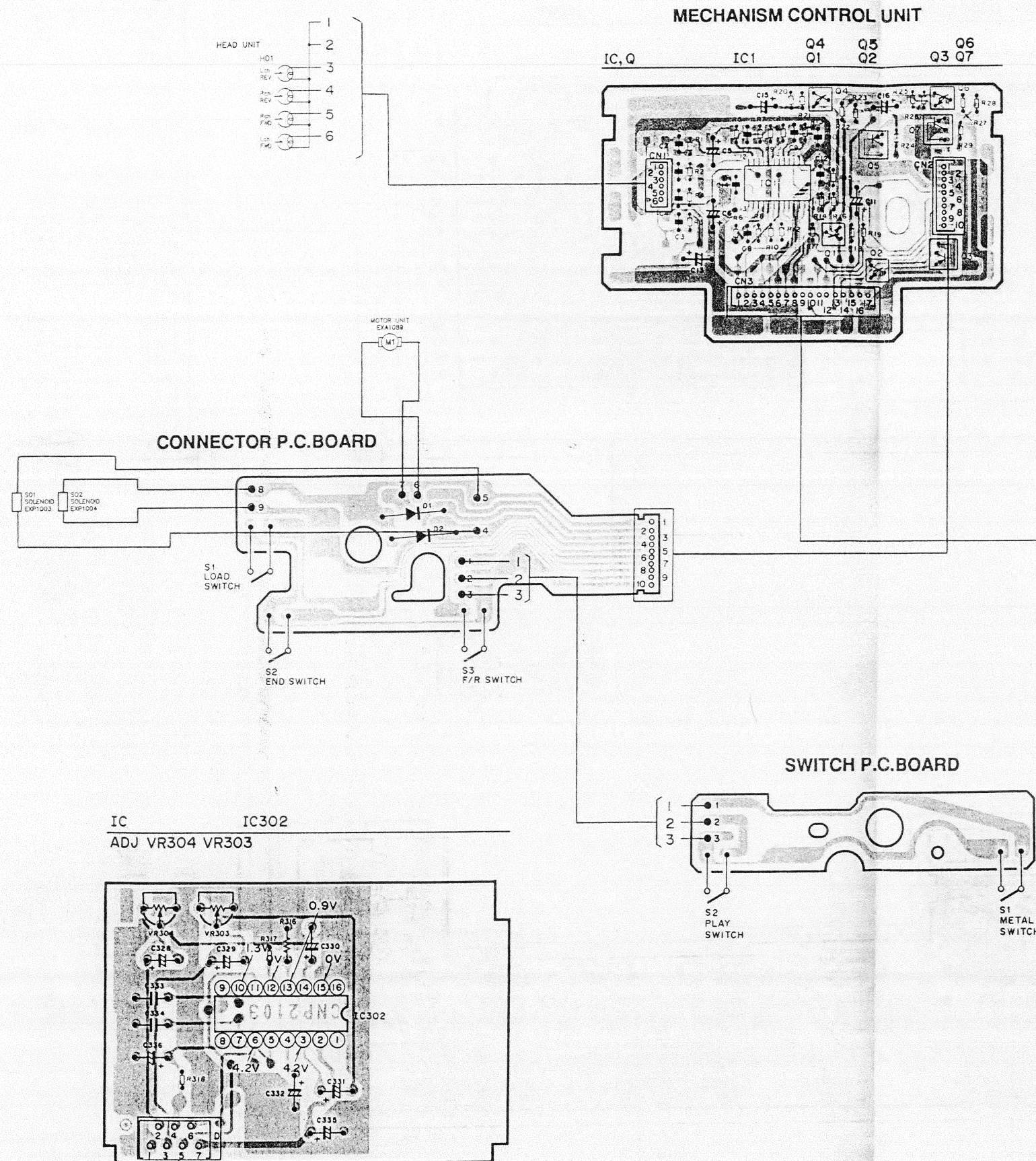


Fig. 10

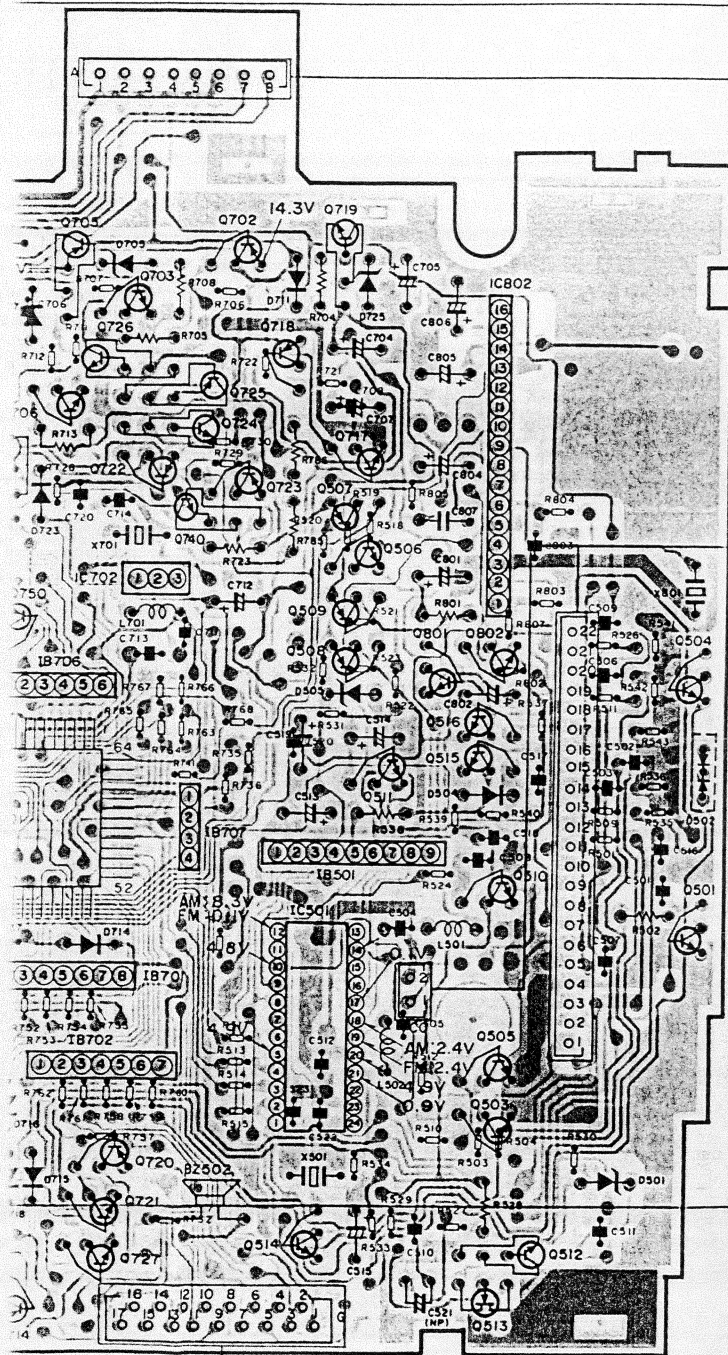
11. CONNECTION DIAGRAM (KEH-M5000SDK/WG)



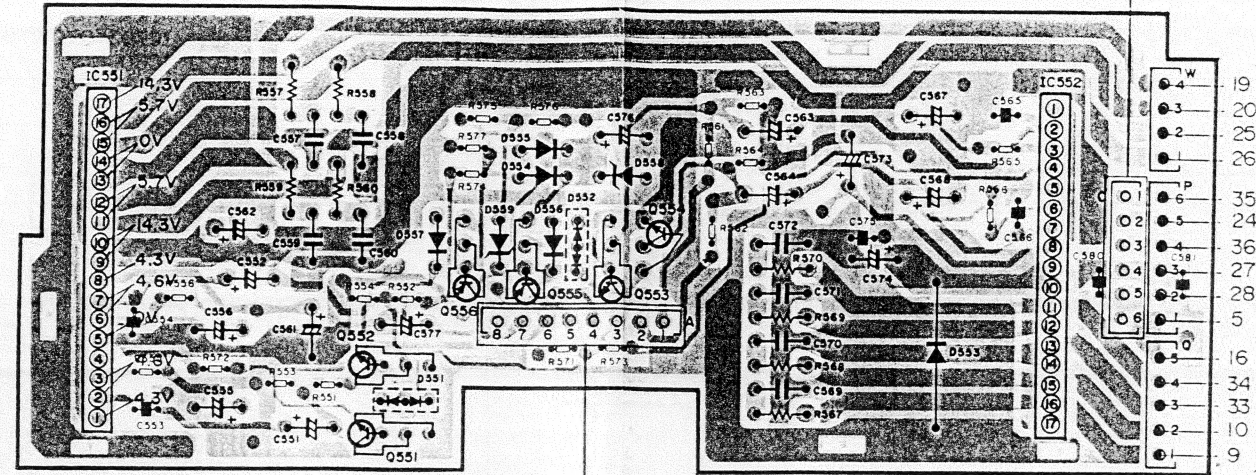
AMP P.C.BOARD

IC, Q IC551 Q551 Q552 Q556 Q555 Q553 Q554 IC552

Q701
Q705 Q703 Q726 Q702 Q718
Q725 Q724 Q722 Q723 Q740 Q506 Q507 Q717 Q719 IC802
Q712 IB704 Q750 Q509 Q508 Q801 Q802 Q511 Q516 Q515 Q504
IC702 IB701 IB707 IC501 IB501 Q510 Q503 Q505 Q501
Q716 Q715 Q714 Q727 Q721 Q720 Q514 Q513 Q512



TO FM/AM TUNER UNIT



DISPLAY UNIT

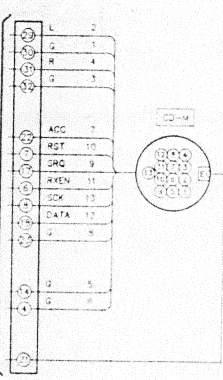
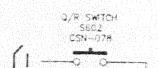
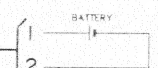
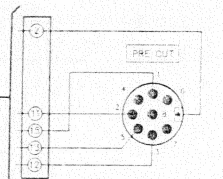
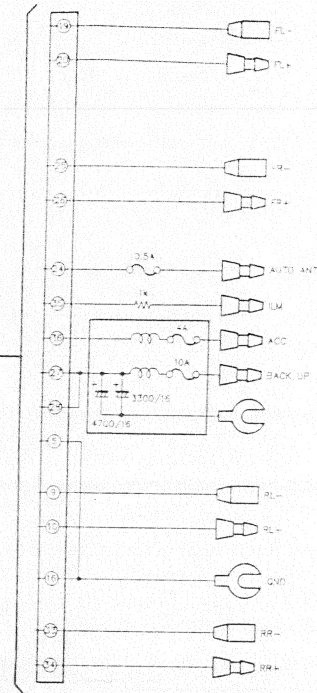
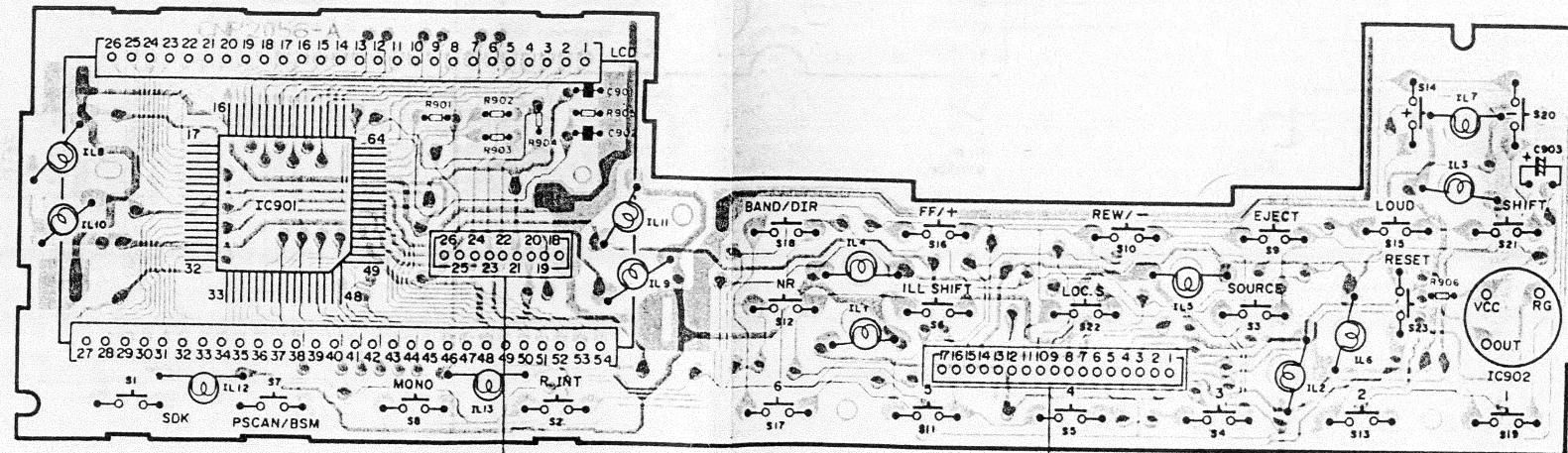
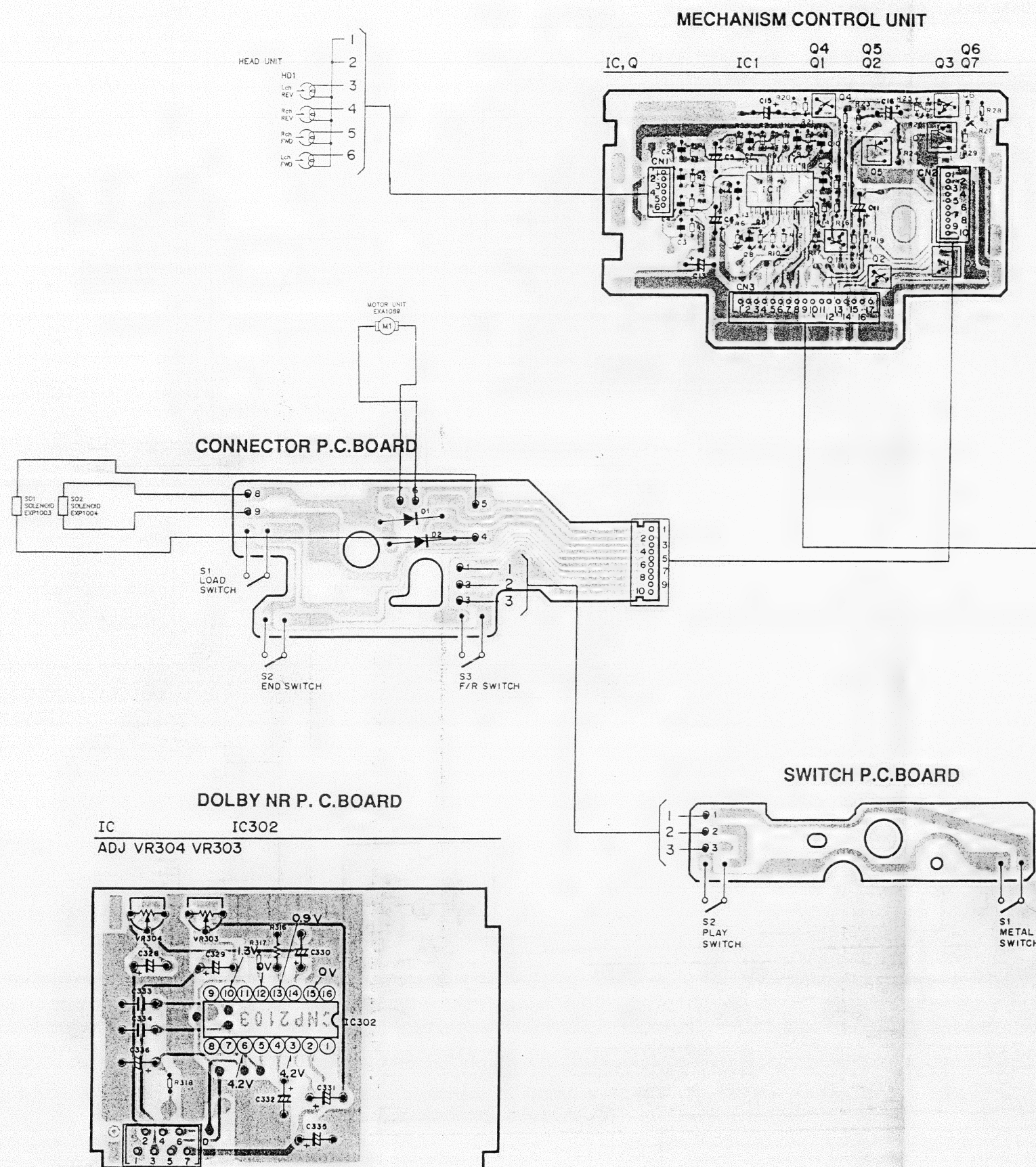


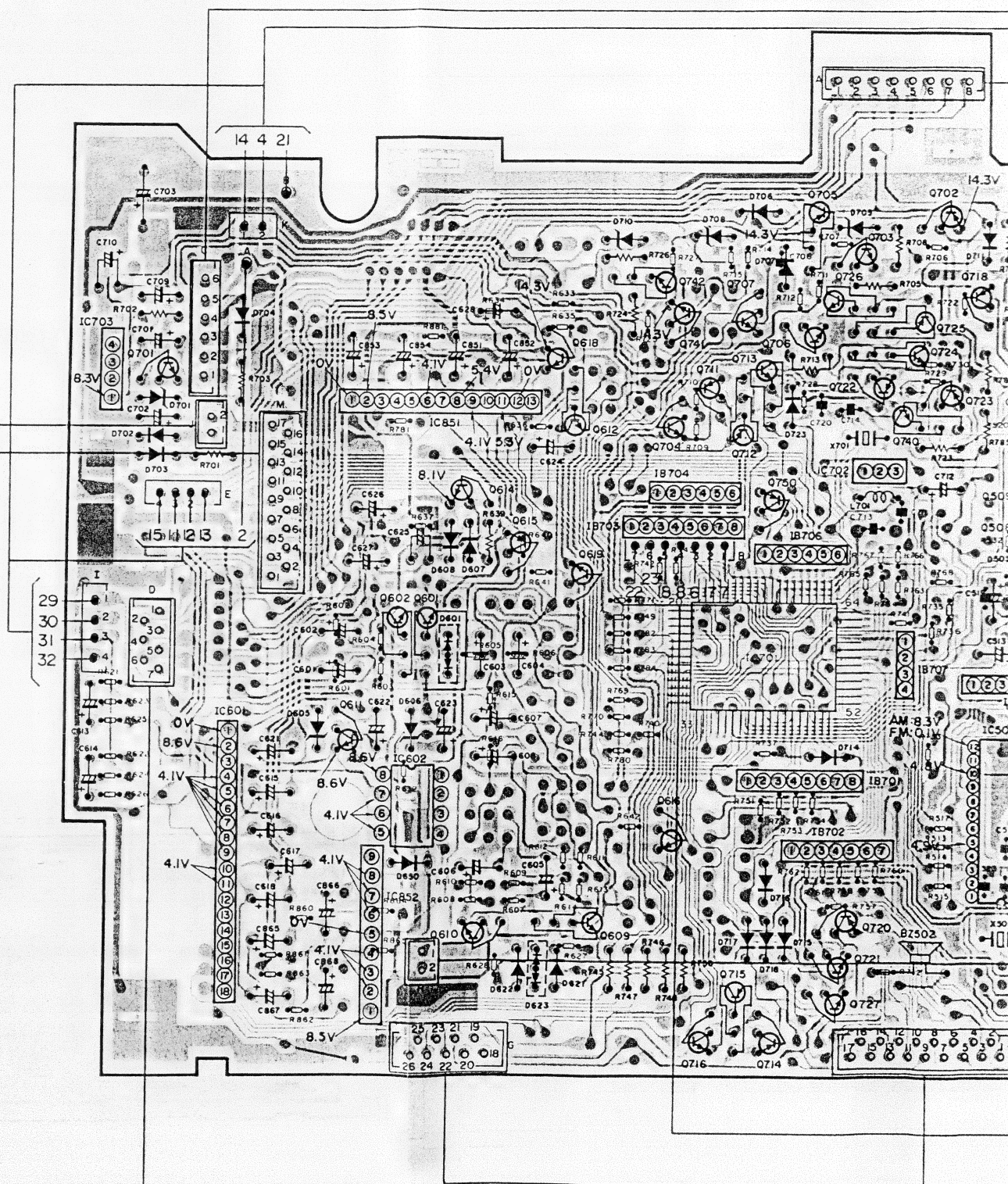
Fig. 11

12. CONNECTION DIAGRAM (KEH-M5000B/EW)

**MOTHER P.C. BOARD**

IC703 Q701 IC852 Q618 Q612 Q742 Q741 Q707 Q706 Q725 Q724 Q722 Q723 Q740
IC, Q IC601 IC602 Q611 Q610 Q704 Q711 Q713 Q712 IB704 Q750 Q509 Q508
Q609 Q616 Q716 Q715 Q714 Q727 Q726

IC701
Q705 Q703 Q726 Q702 Q718



7

8

9

10

11

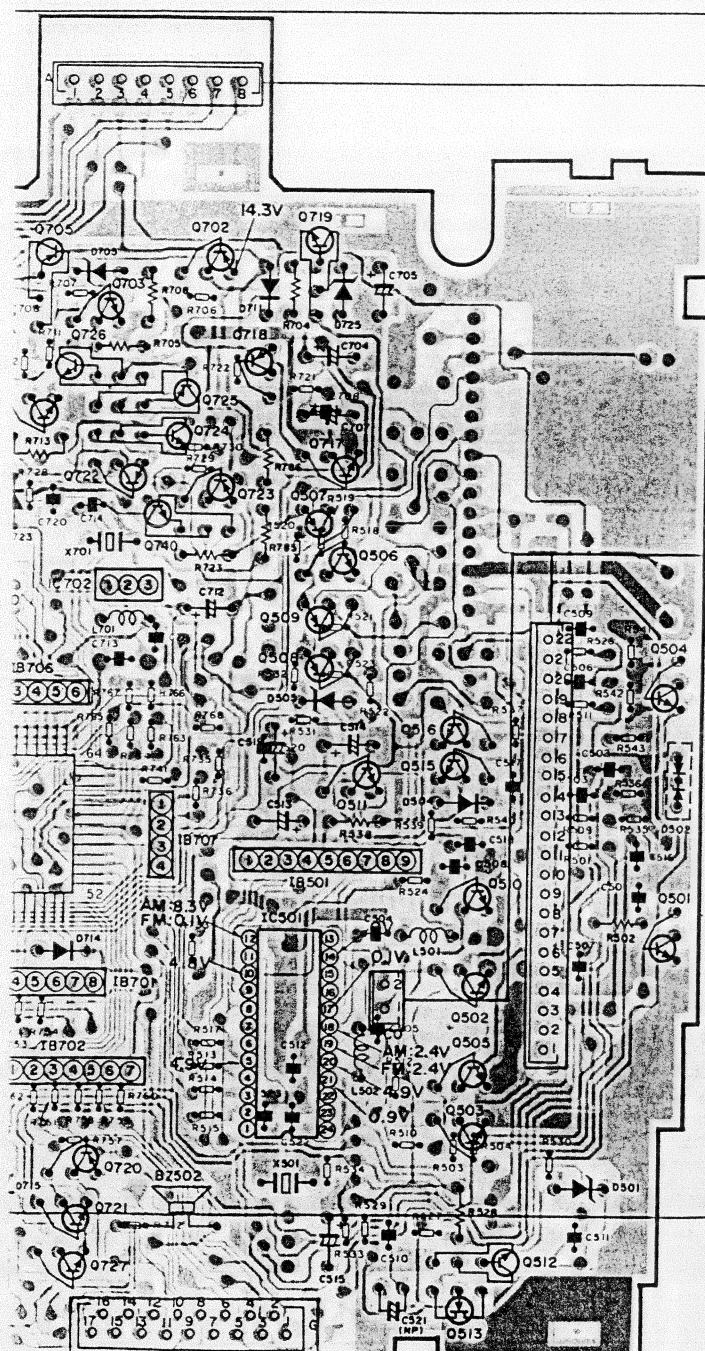
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AMP P.C.BOARD

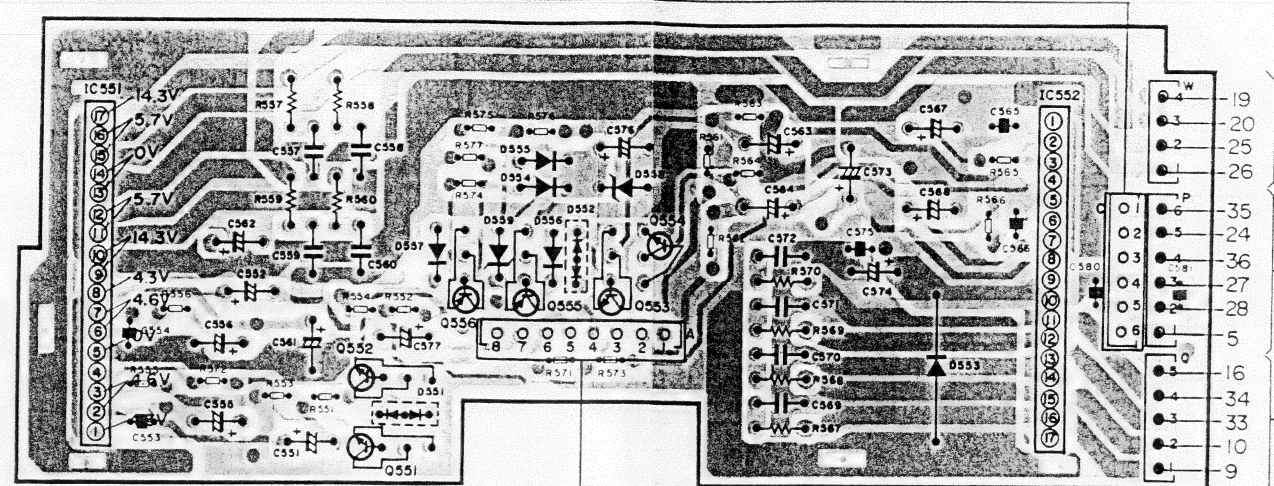
IC, Q IC551 Q551 Q552 Q556 Q555 Q553 Q554

IC552

Q1
 15 Q703 Q726 Q702 Q718
 5 Q724 Q722 Q723 Q740 Q506 Q507 Q717 Q719
 IB704 Q750 Q509 Q508 Q511 Q516 Q515 Q504
 702 IB701 IB707 IC501 IB501 Q510 Q502 Q503 Q505 Q501
 Q716 Q715 Q714 Q727 Q721 Q720 Q513 Q512



TO FM/AM TUNER UNIT



DISPLAY UNIT

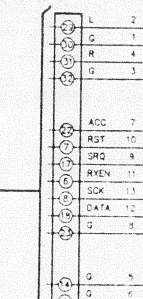
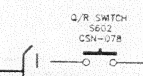
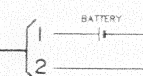
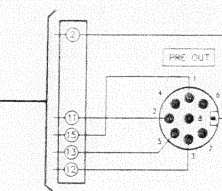
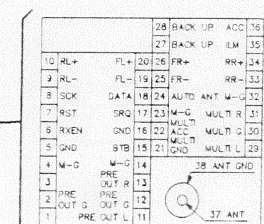
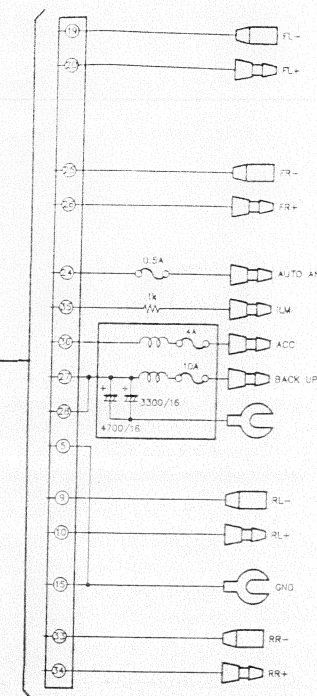
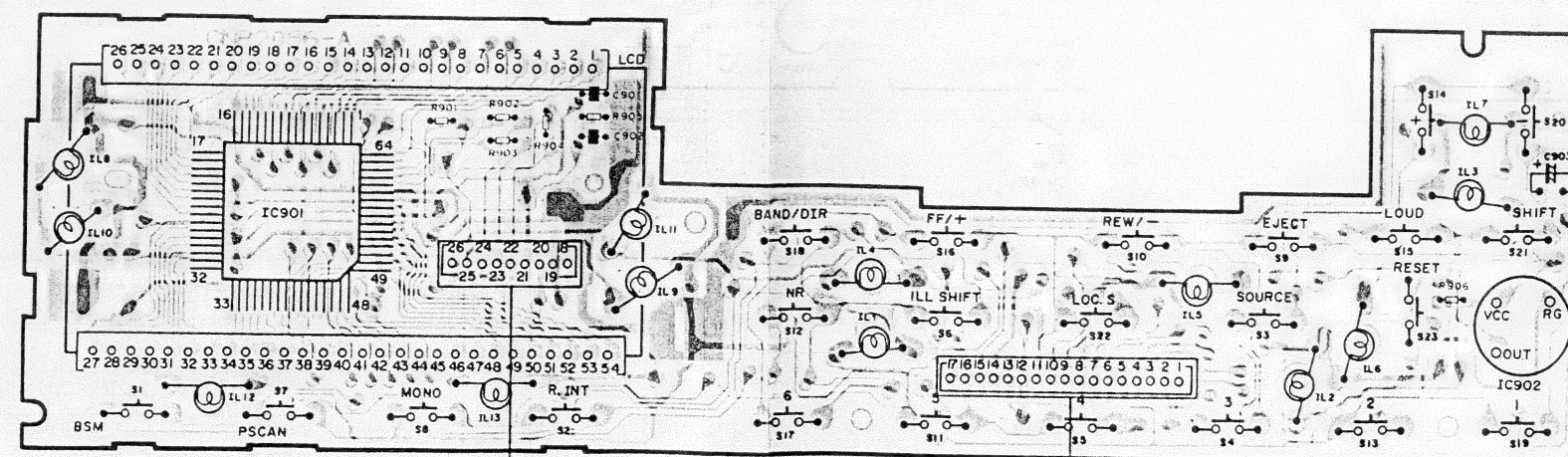


Fig. 12

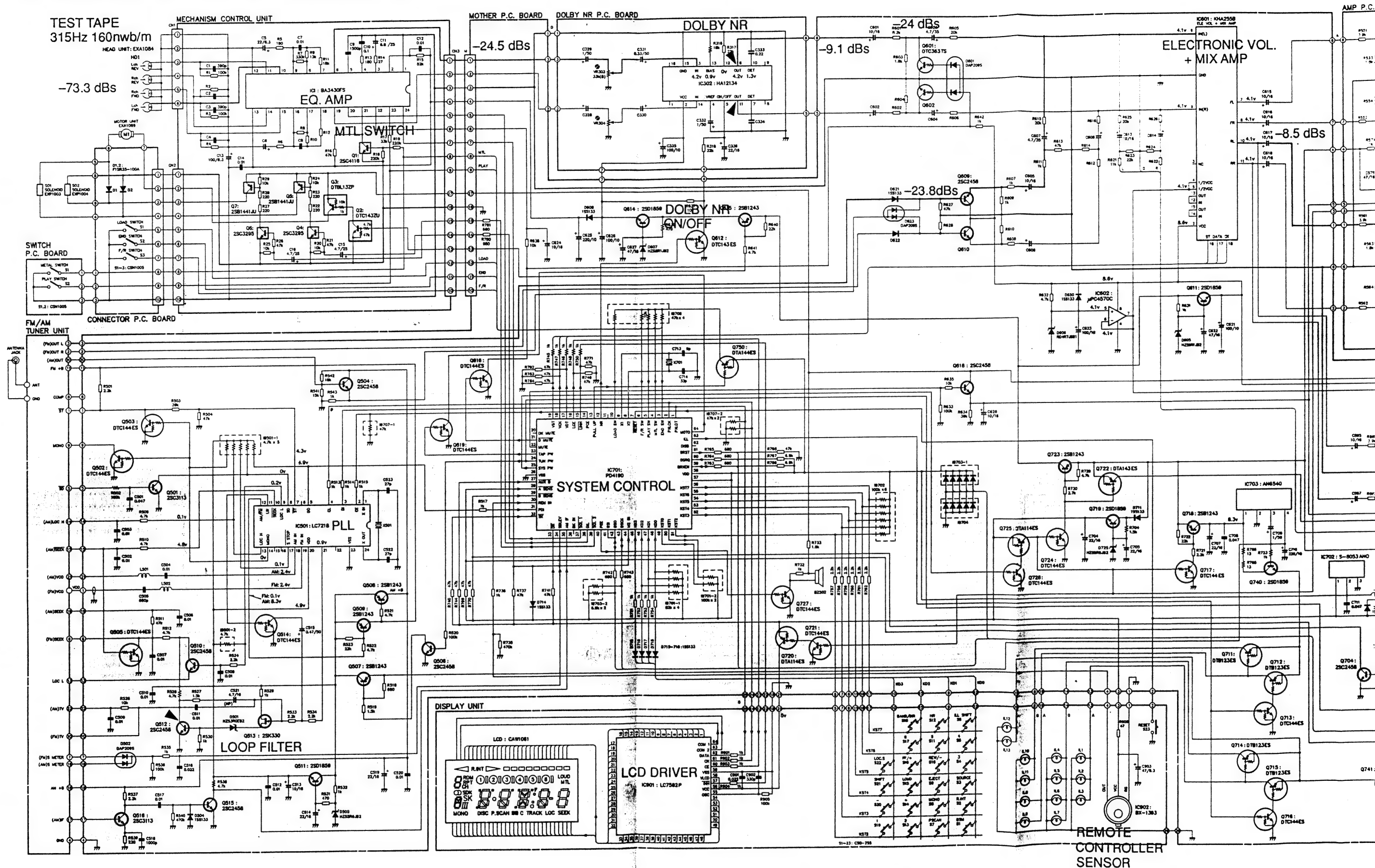
13. SCHEMATIC CIRCUIT DIAGRAM (KEH-M5000B/EW)

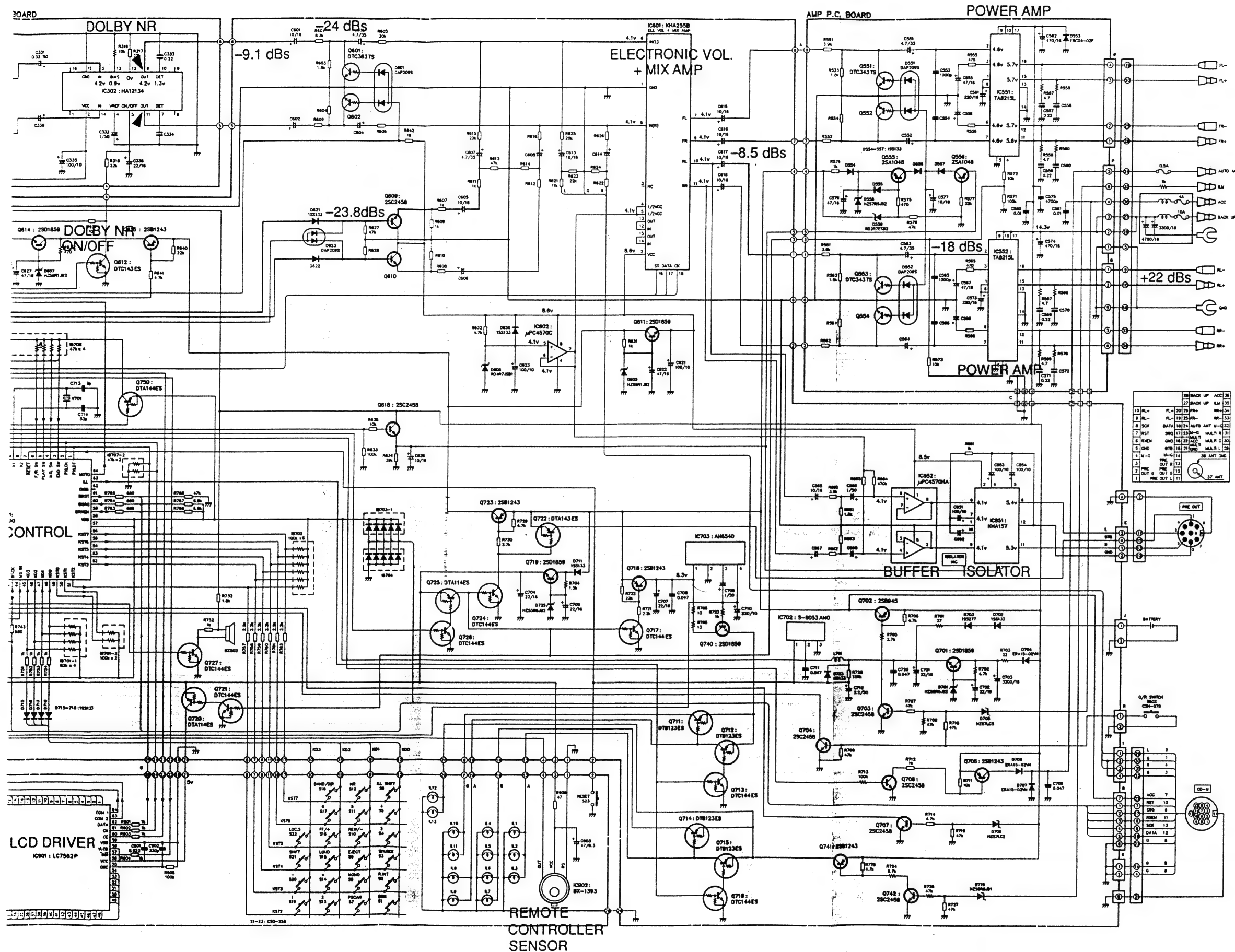
A

B

C

D





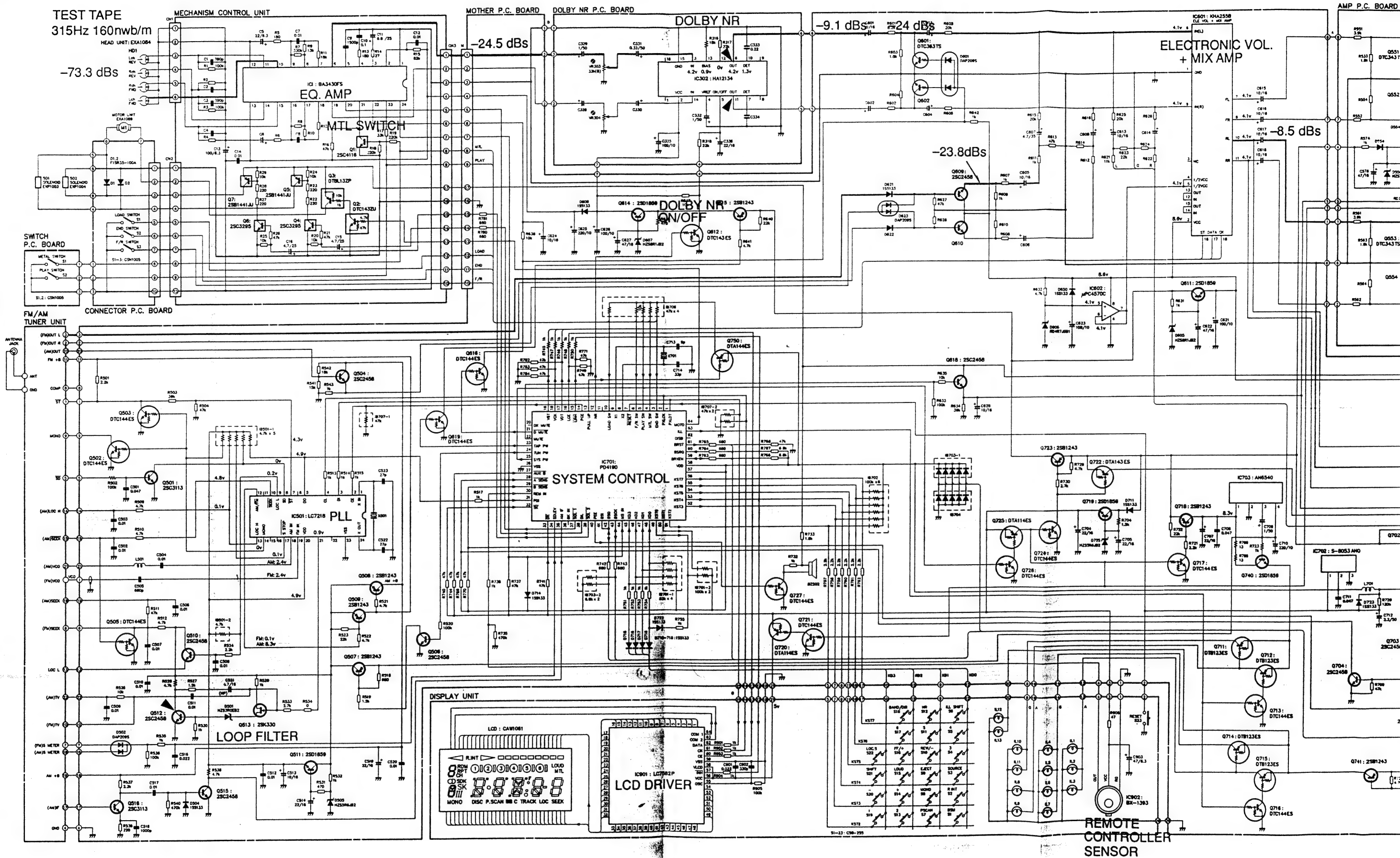
14. SCHEMATIC CIRCUIT DIAGRAM (KEH-M5000QR/ES)

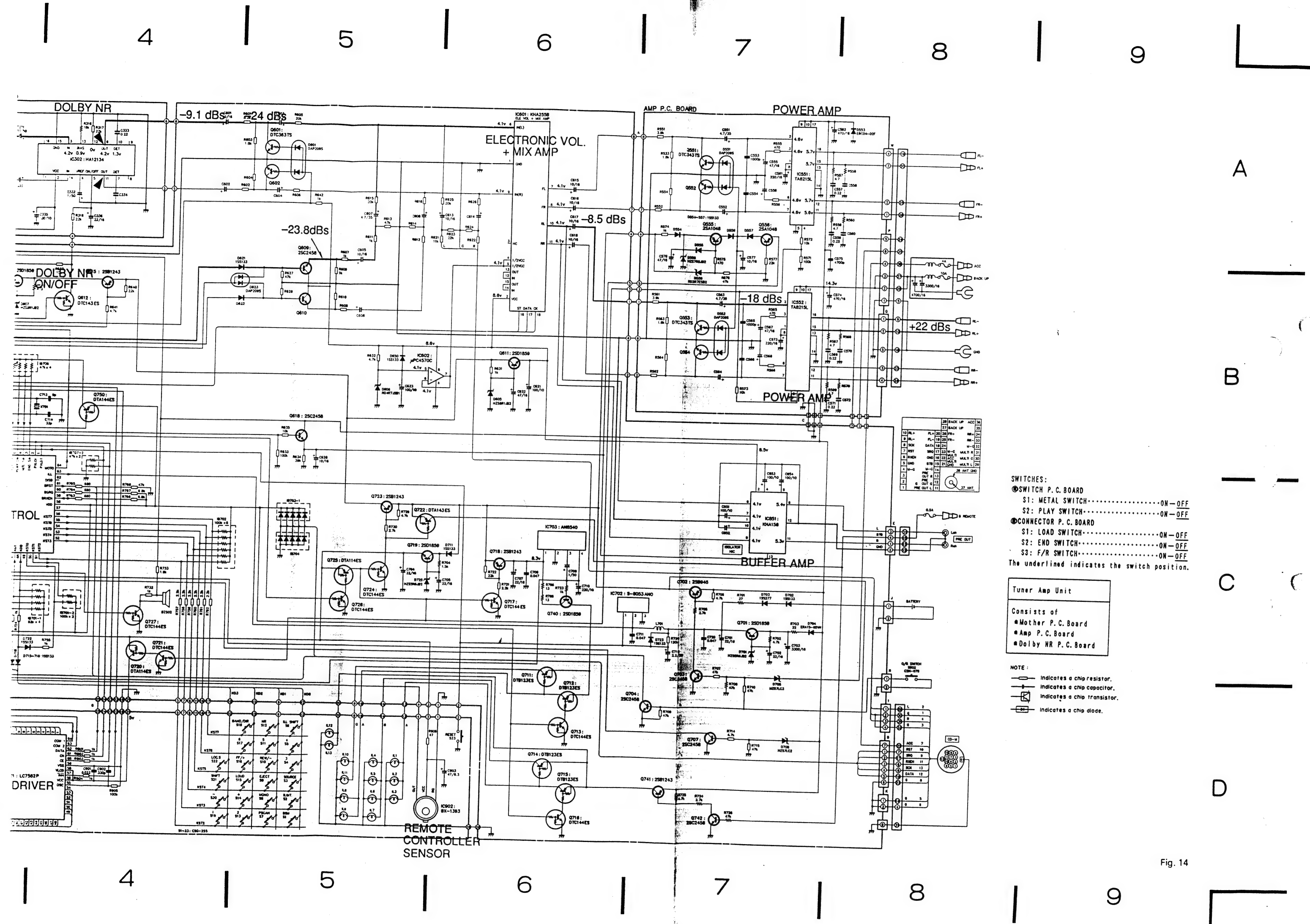
A

B

C

D





- SWITCHES:
- SWITCH P.C. BOARD
 - S1: METAL SWITCH.....ON—OFF
 - S2: PLAY SWITCH.....ON—OFF
- CONNECTOR P.C. BOARD
- S1: LOAD SWITCH.....ON—OFF
 - S2: END SWITCH.....ON—OFF
 - S3: F/R SWITCH.....ON—OFF
- The underlined indicates the switch position.

Tuner Amp Unit

Consists of

- Mother P.C. Board
- Amp P.C. Board
- Dolby NR P.C. Board

- NOTE:
- Indicates a chip resistor.
 - Indicates a chip capacitor.
 - Indicates a chip transistor.
 - Indicates a chip diode.

Fig. 14

D

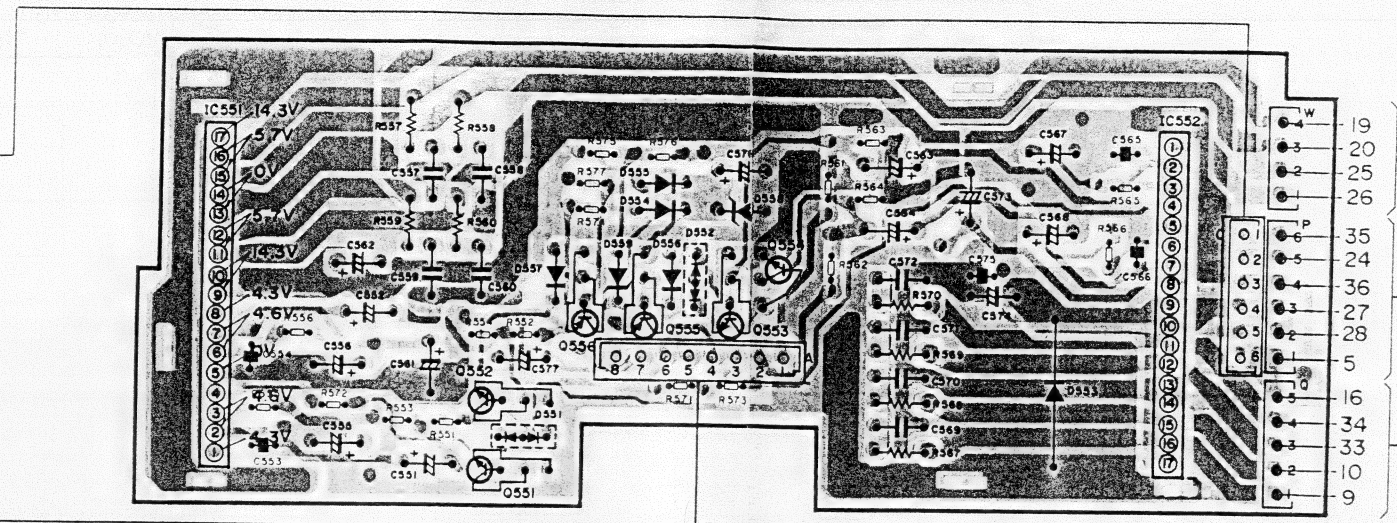
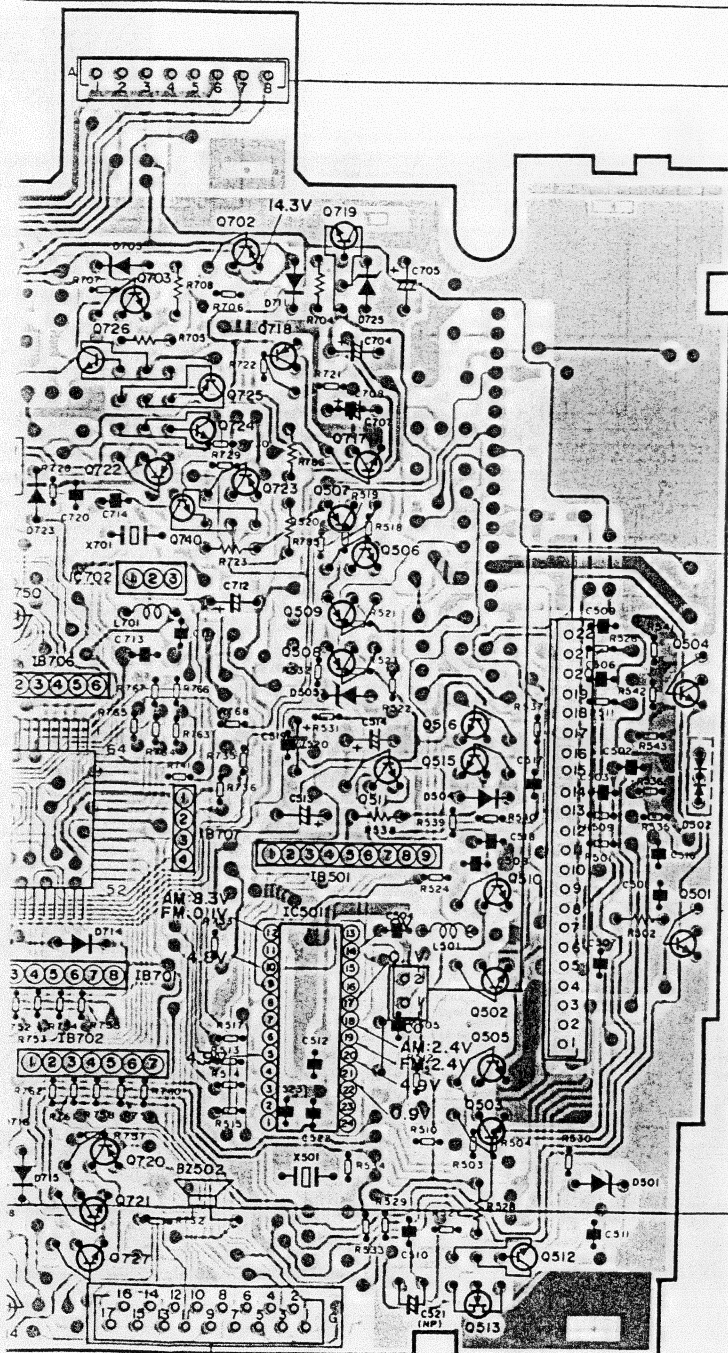


AMP P.C.BOARD

IC, Q IC551 Q551 Q552 Q556 Q555 Q553 Q554

IC552

701 Q703 Q726 Q702 Q718
 25 Q724 Q722 Q723 Q740 Q506 Q507 Q717 Q719
 2 IB704 Q750 Q509 Q508 Q511 Q516 Q515 Q504
 IC702 IB701 IB707 IC501 IB501 Q510 Q502 Q503 Q505 Q501
 Q716 Q715 Q714 Q727 Q721 Q720 Q513 Q512



TO FM/AM TUNER UNIT

12	RL+	FL+	20	FR+	RR+	34
8	RL-	FL-	19	FR-	RR-	33
9	SOX	DATA	18	24	M-G	32
7	RST	SRQ	17	23	M-G	31
6	RXEN	QND	16	22	ACC	30
5	QND	BTB	15	21	QND	29
4	M-G	M-G	14	20	ANT	28
3	PRE	OUT	13	19	ANT	27
2	OUT	G	12	18	ANT	26
1	PRE	OUT	11	17	ANT	25

DISPLAY UNIT

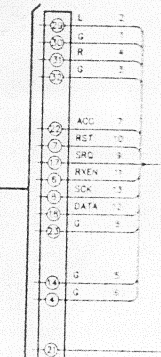
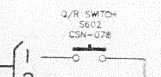
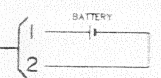
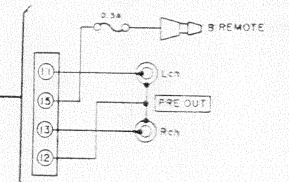
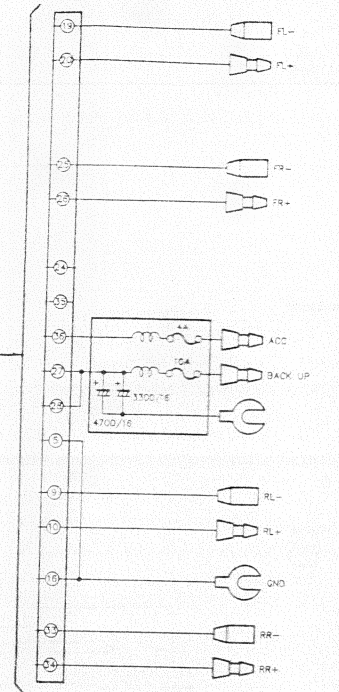
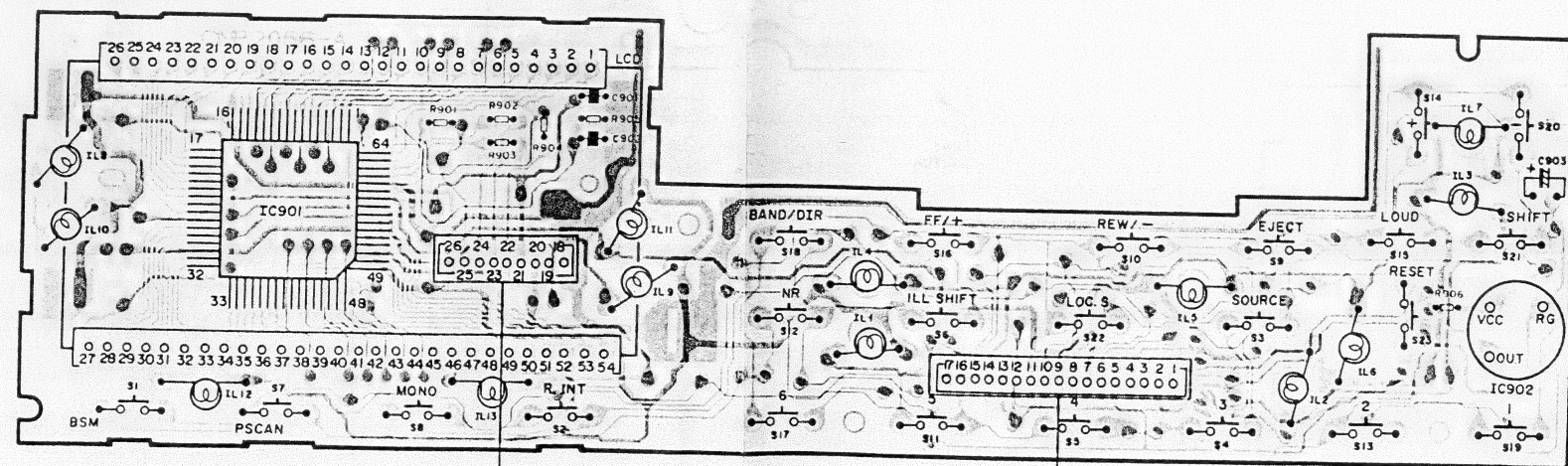


Fig. 15

16. FM/AM TUNER UNIT

- KEH-M5000SDK/WG, KEH-M5000B/EW

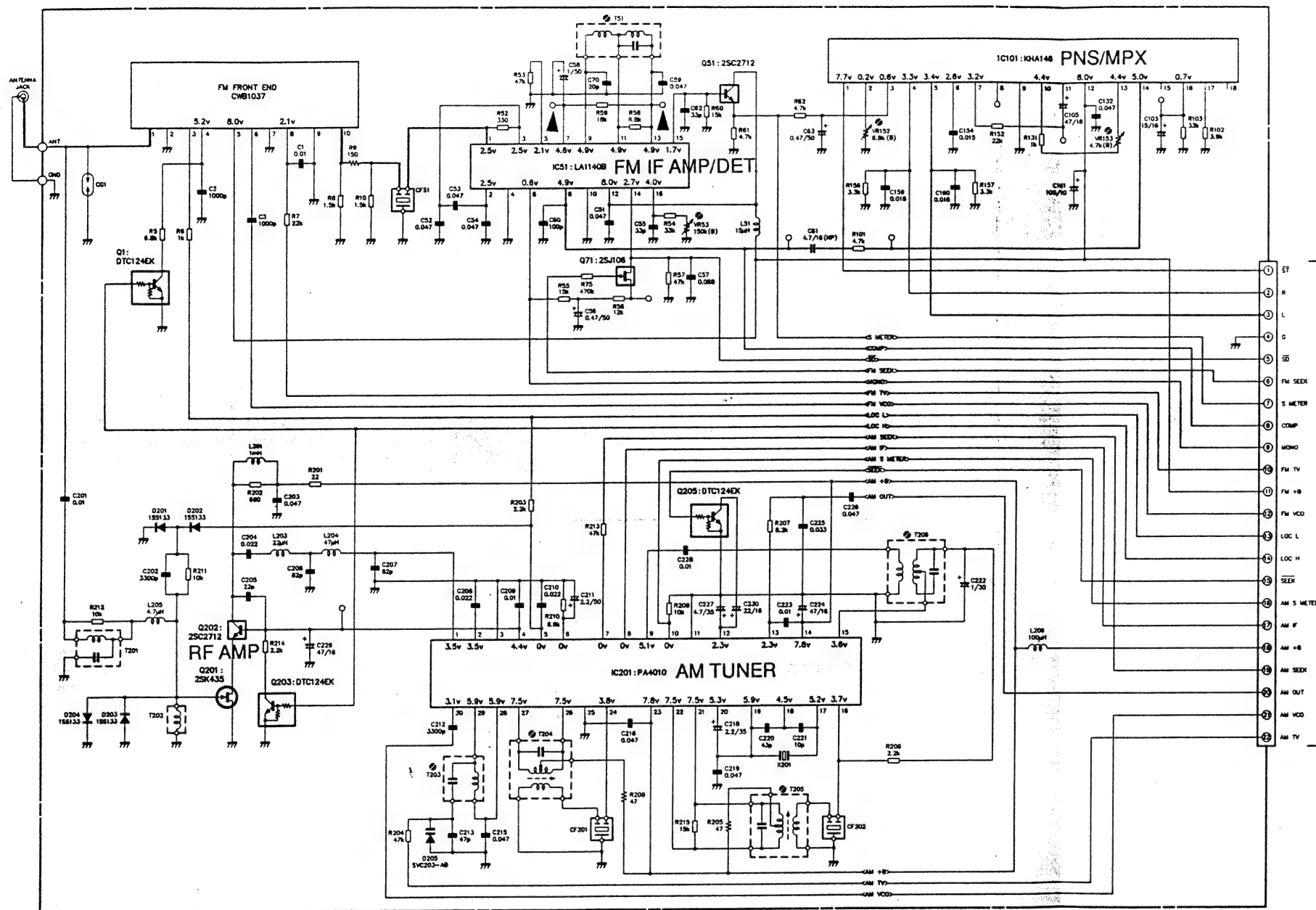
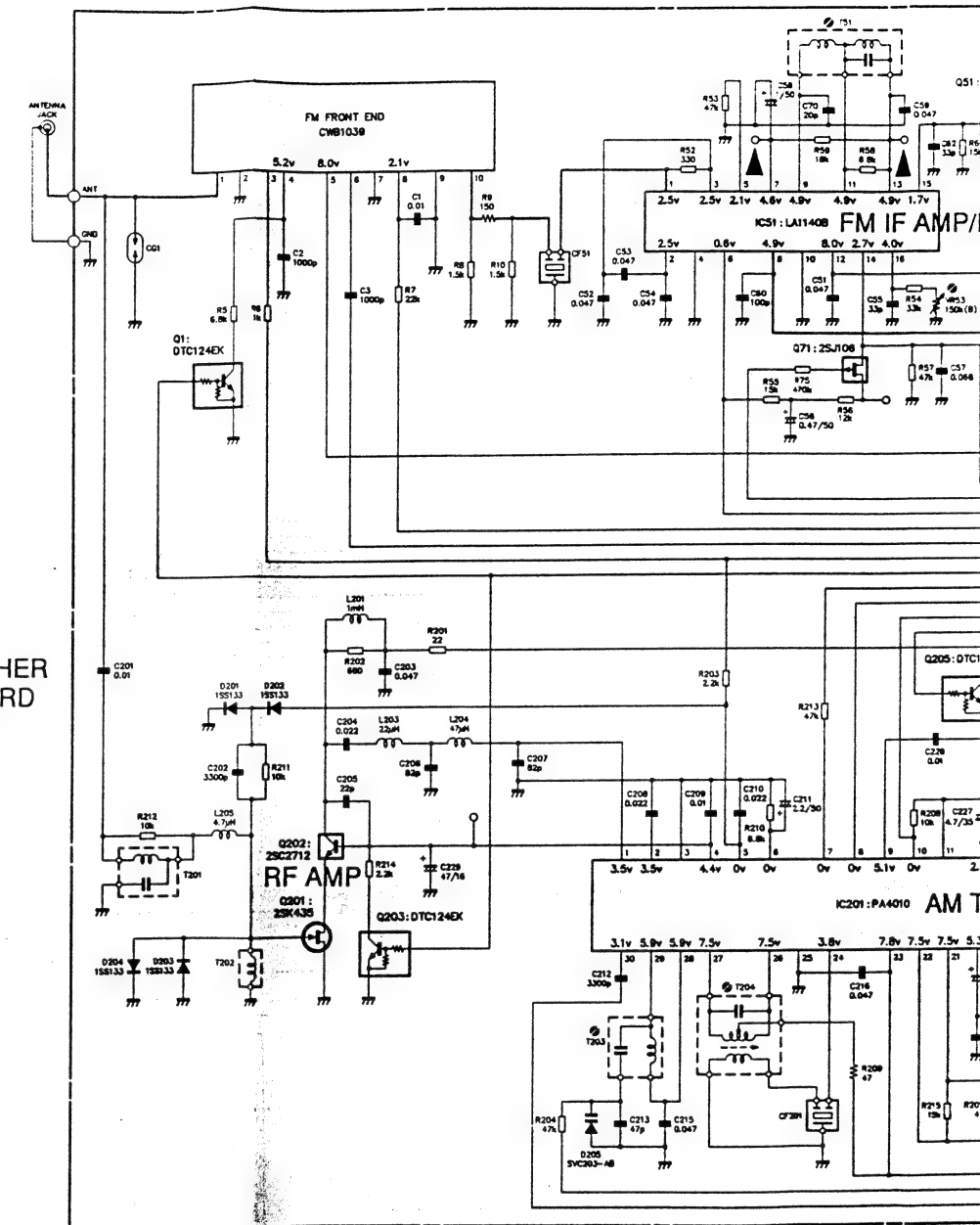


Fig. 16

- KEH-M5000QR/ES



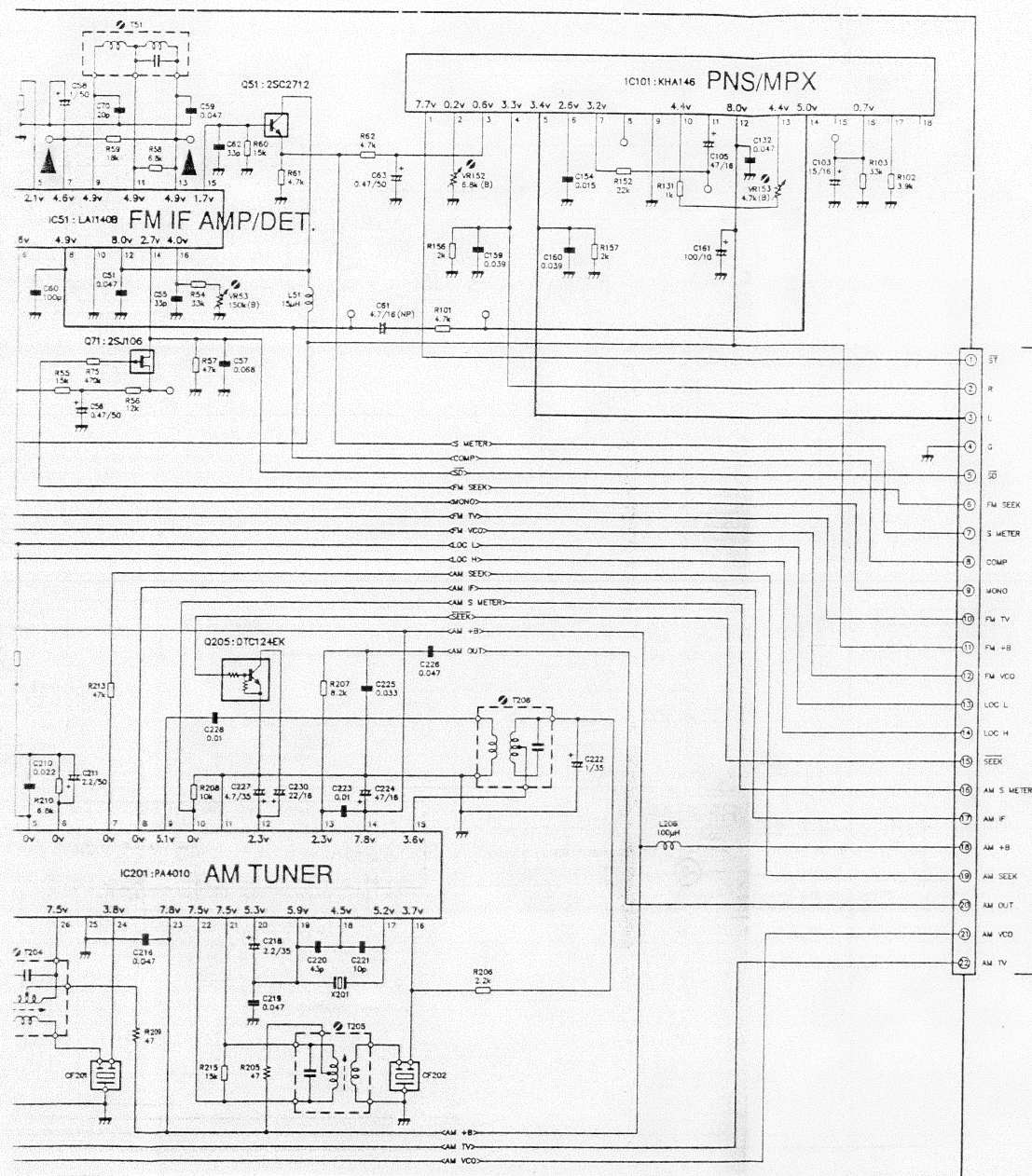


Fig. 17

• KEH-M5000SDK/WG, KEH-M5000B/EW, KEH-M5000QR/ES

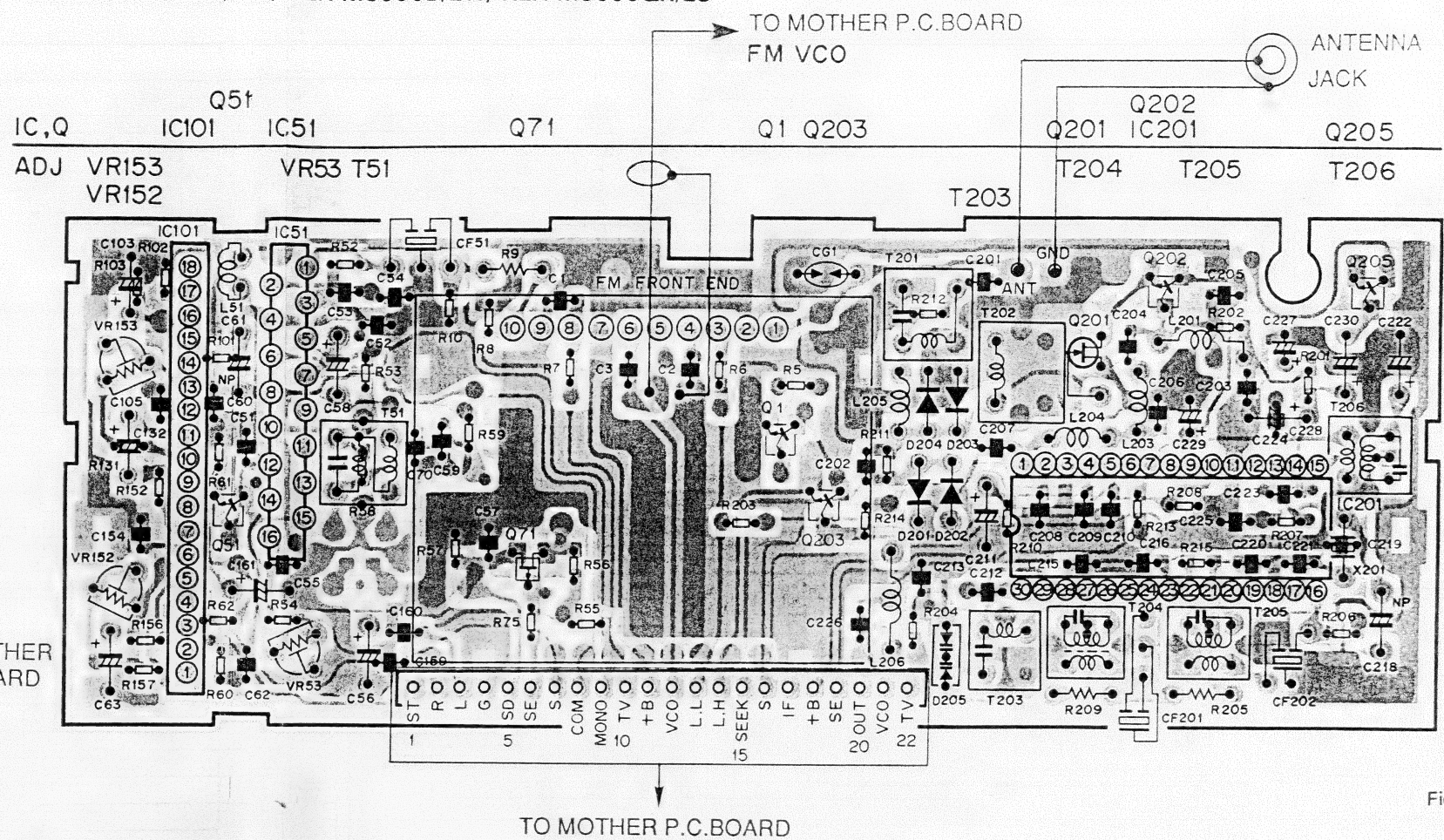
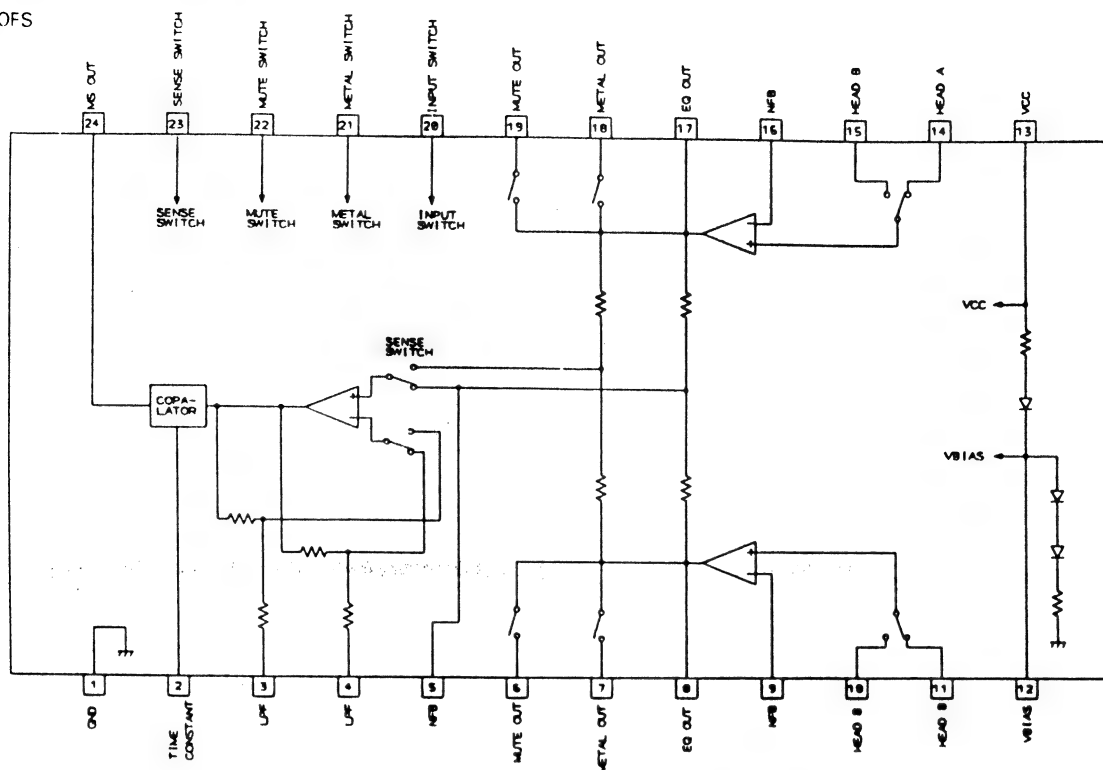
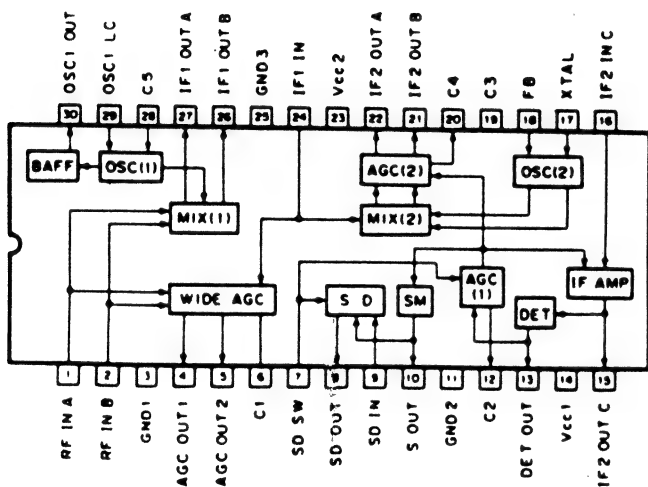


Fig. 18

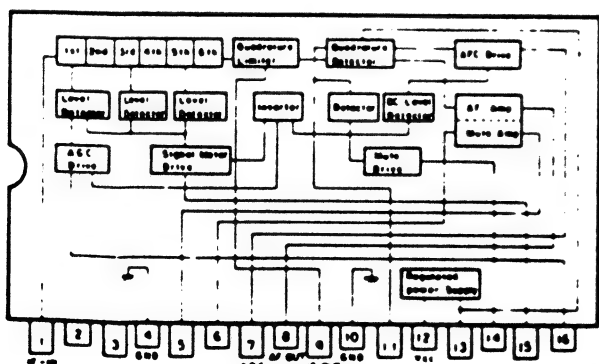
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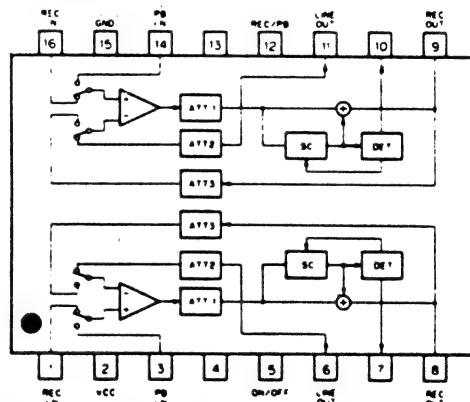
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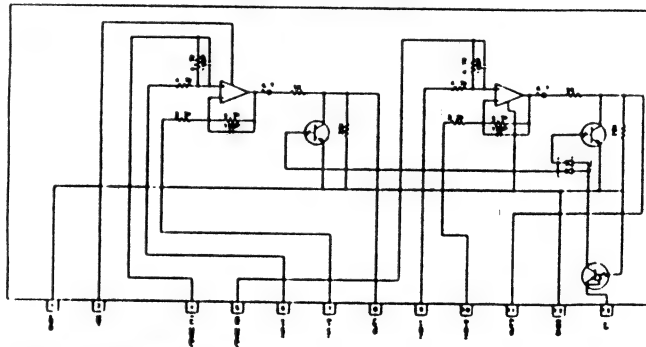
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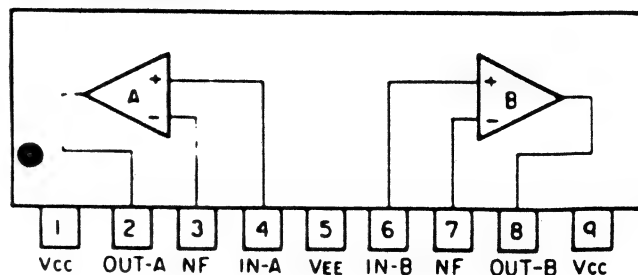
IC302: HA12134



IC851: KHA15B KEH-M5000QR/ES



IC852: μ PC4570HA



• ICs and Transistors

2SB1243
2SD1859



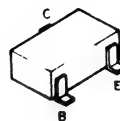
2SK330



2SJ106



2SC2712
2SC3295
2SC4116



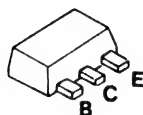
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2SA1048
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2SC3113



2SB1441JU



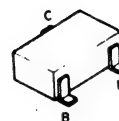
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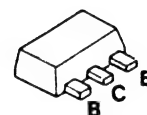
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DTC143ZU



DTBL13ZP



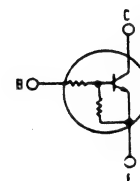
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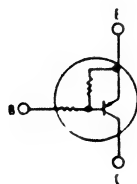
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DTC343TS
DTC363TS



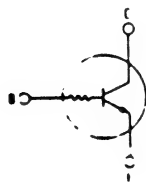
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DTC144ES



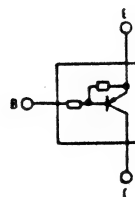
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DTA143ES
DTA144ES
DTB123ES



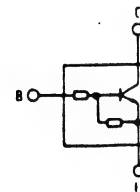
DTC343TS
DTC363TS



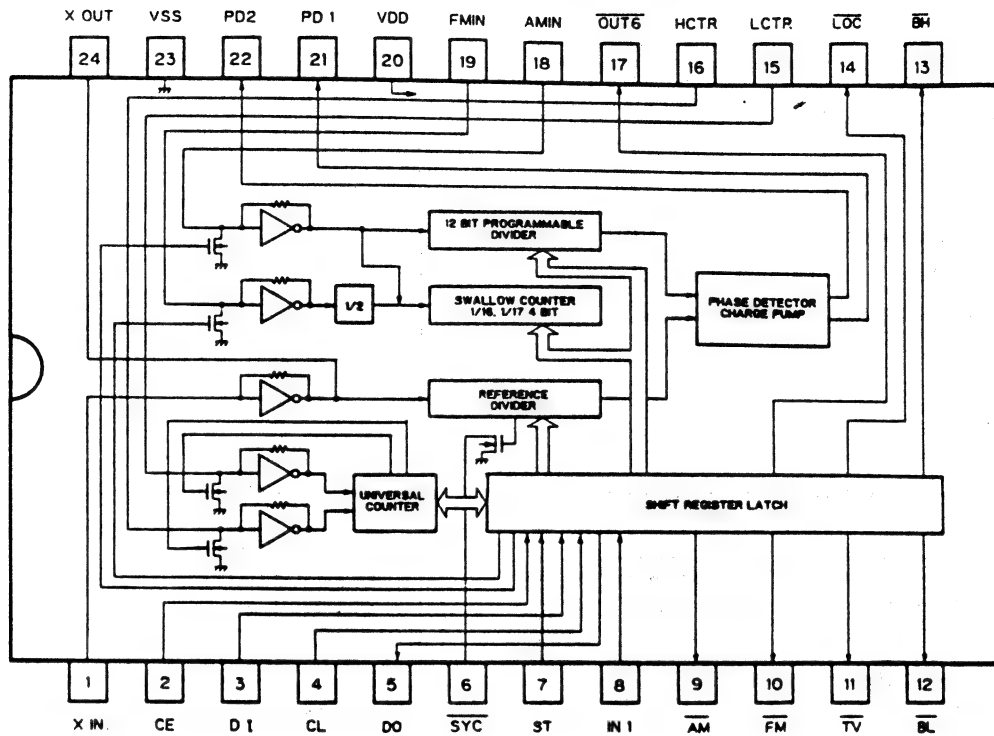
DTBL13ZP



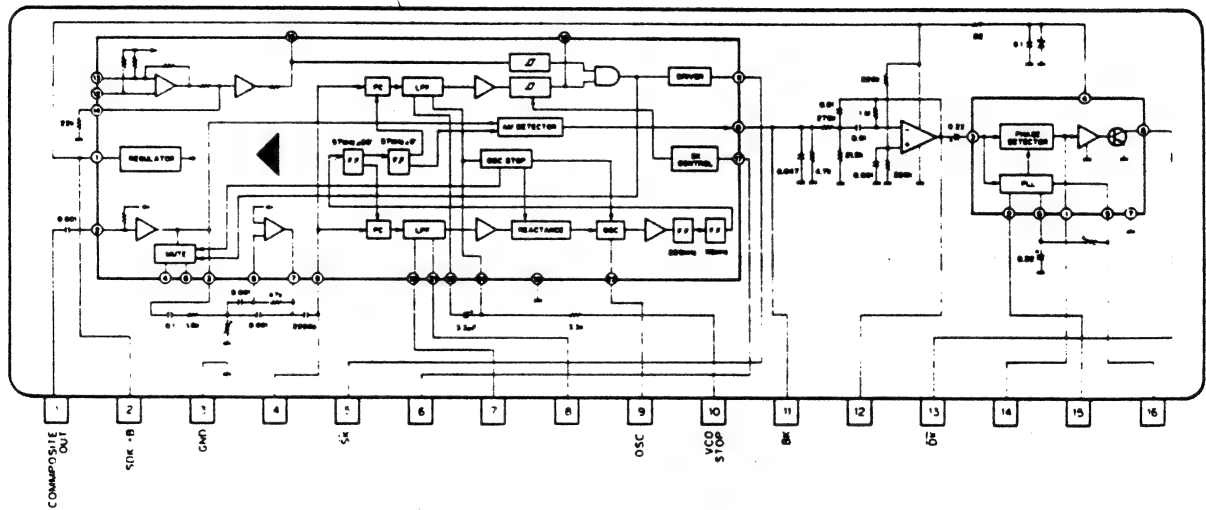
DTC124EK
DTC143ZU



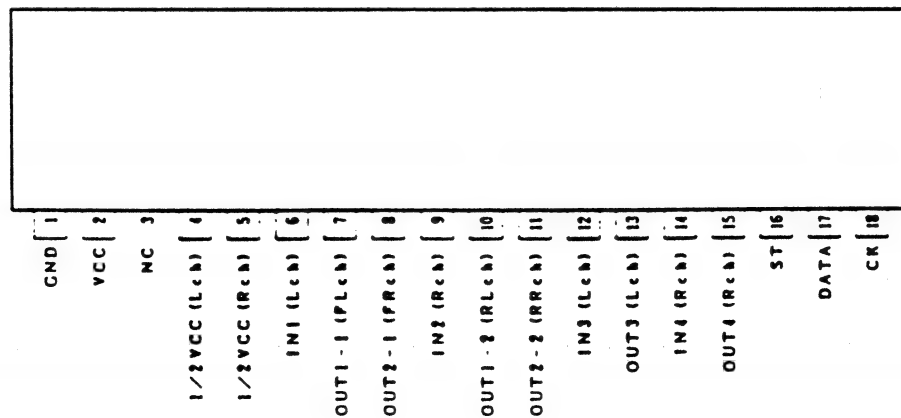
IC501:LC7218



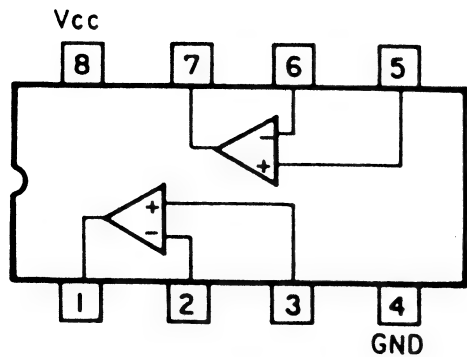
IC802:KHA142



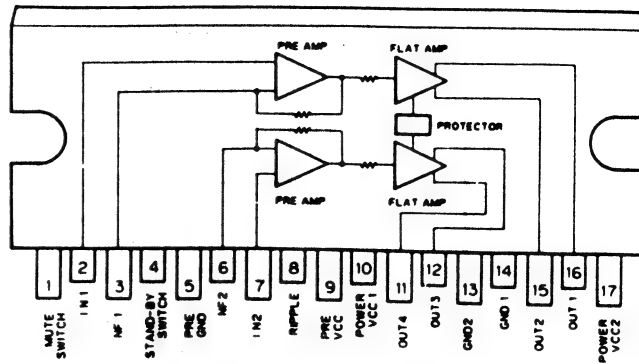
IC601:KHA255B



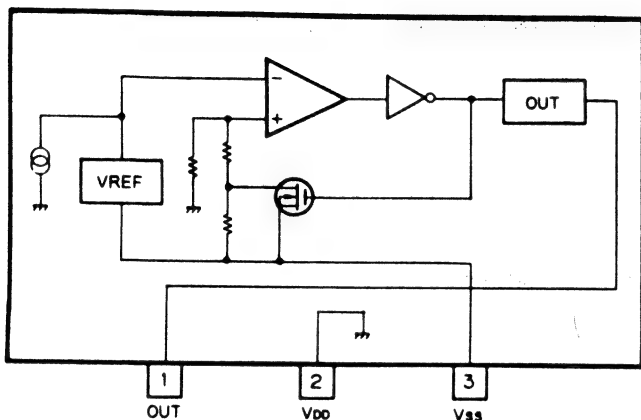
IC602: μ PC4570C



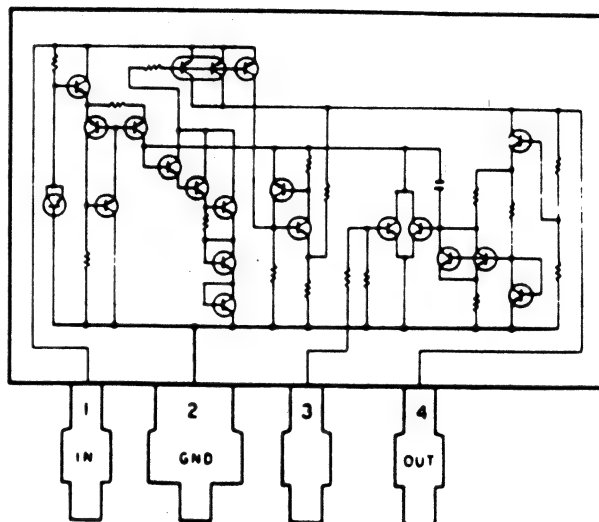
IC551, 552: TA8215L



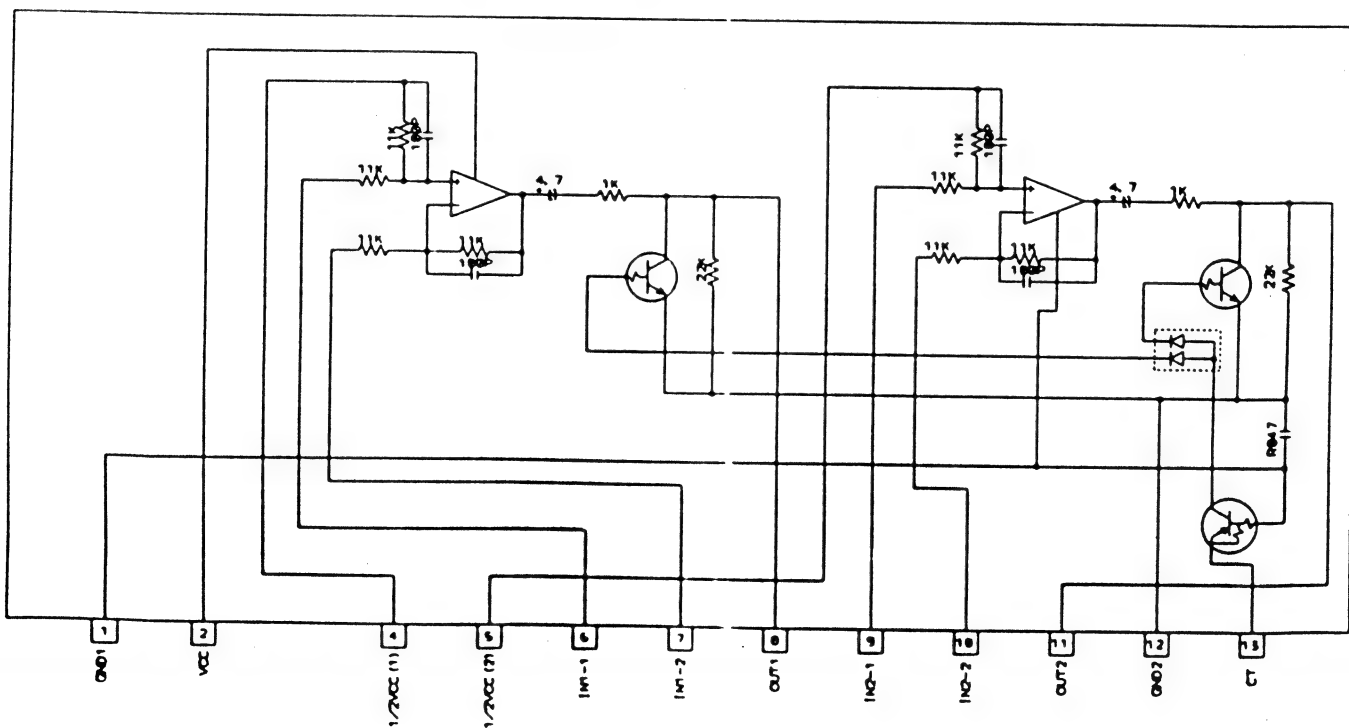
IC702: S-8053ANO



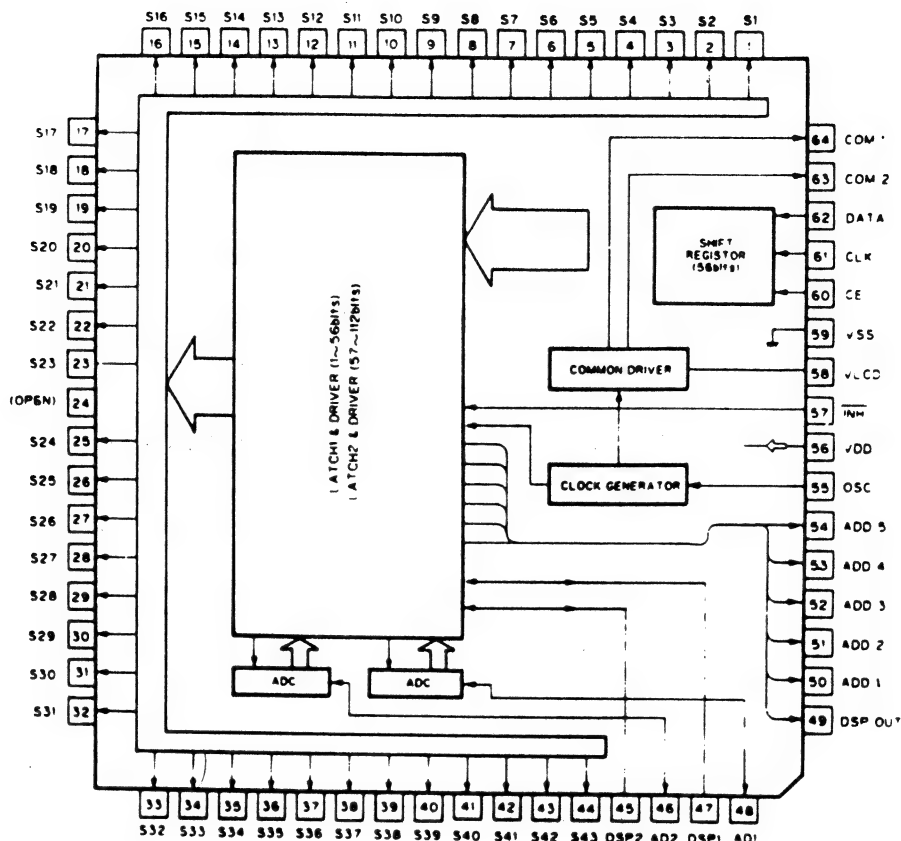
IC703: AN6540



IC851: KHA157 KEH-M5000SDK/WG, KEH-M5000B/EW



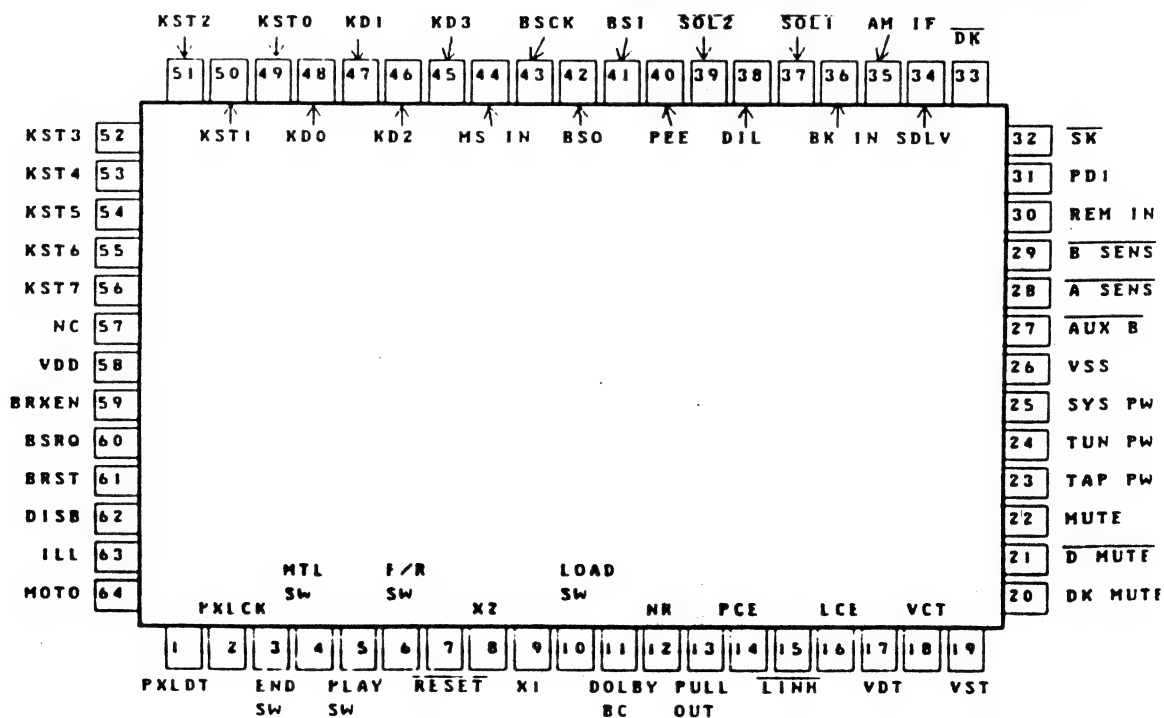
IC901: LC7582P



IC701: *PD4190

IC's marked by *are MOS type.

Be careful in handling them because they are very liable to be damaged by electrostatic induction.



• Pin Functions (PD4190)

Pin No.	Pin Name	I/O	Output Format	Function and Operation	STBY	RST
1	PXLD _T	Output	C	LCD driver IC and PLL IC data line	L	Hi-Z
2	PXLCK	Output	C	LCD driver IC and PLL IC clock line	L	Hi-Z
3	END SW	Input		Deck END sensor input		
4	MTL SW	Input		Deck METAL (70 μS) sensor input		
5	PLAY SW	Input		Deck head position (PLAY) sensor input		
6	F/R SW	Input		Deck FWD/REV sensor input		1
7	RESET	Input		Reset input		
8	X2			Crystal oscillating element connection pin		
9	X1			Crystal oscillating element connection pin		
10	LOAD SW	Input		Deck LOAD/EJECT sensor input		
11	DOLBYBC	Output	C	Not used	L	Hi-Z
12	NR	Output	C	Dolby NR ON/OFF output	L	Hi-Z
13	PULL UP	Output	C	Cut pull up for deck switches when BACK UP is OFF	Hi-Z	
14	PCE	Output	C	Chip enable output for PLL IC (IC501:LC7218)	L	Hi-Z
15	LNH	Output	C	INH control output for LCD driver IC (IC901:LC7582P)	L	Hi-Z
16	LCE	Output	C	Chip enable or strobe output for LCD driver IC	L	Hi-Z
17	VDT	Output	C	Data output for electronic volume IC (IC601:KHA255B)	L	Hi-Z
18	VCK	Output	C	Clock output for electronic volume IC (IC601:KHA255B)	L	Hi-Z
19	VST	Output	C	Strobe output for electronic volume IC (IC601:KHA255B)	L	Hi-Z
20	DK MUTE	Output	C	Not used	H	Hi-Z
21	D MUTE	Output	C	Deck mute output	H	Hi-Z
22	MUTE	Output	C	System mute output	H	Hi-Z
23	TAP PW	Output	C	Deck power supply control	L	Hi-Z
24	TUN PW	Output	C	Tuner power supply control	L	Hi-Z
25	SYS PW	Output	C	System (power amp) power supply control	L	Hi-Z
26	VSS			GND		
27	AUX B	Input		AUX B sensor input		
28	A SENS	Input		ACC power supply sensor input		
29	B SENS	Input		BACK UP power supply sensor input		
30	REM IN	Input		Remote control pulse input		
31	PDI	Input		Data input for PLL IC (IC501:LC7218)	L	Hi-Z
32	SK	Input		SK signal input		
33	DK	Input		DK signal input		
34	SDLEV	Input		Input level sensor input		
35	AM IF	Input		AM IF count input		
36	BK IN			Not used		
37	SOL 1	Output	C	Output for deck solenoid 1 (head position)	L	Hi-Z
38	DIL	Output	C	Deck FWD/REV head selector output	Keep	Hi-Z
39	SOL 2	Output	C	Output for deck solenoid 2 (DIR selector and EJECT)	L	Hi-Z
40	PEE	Output	C	Beep tone output	L	Hi-Z

17. CHASSIS EXPLODED VIEW

• Parts List

NOTE:

- For your Parts Stock Control, the fast moving items are indicated with the marks ★ ★ and ★.
- ★ ★: GENERALLY MOVES FASTER THAN ★.
- This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts whose parts numbers are omitted are subject to being not supplied.
- Parts marked by "◎" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Remote Control Assy (ES)	CXA2958		34	Insulator	
	2	Cover (ES)	CZN3224		35	Cover	
	3	Screw	BMZ26P050FMC		36	Cushion	
◎	4	Cassette Mechanism Assy	EXK1410		37	Lens	CNV2288
	5	Arm	CNV2078		38	Cushion	
◎	6	Mechanism Control Unit	CWM1967	★	39	Button	CAC1988
	7	Connector		★	40	Button	CAC1987
	8	Connector		★	41	Button	CAC1989
	9	Connector		★	42	Button	CAC1990
	10	Screw	CBA1022		43	Spacer	
	11	Case		★	44	Button	CAC1831
	12	.....		★	45	Button	CAC1830
	13	Insulator		★	46	Button	CAC1832
◎	14	FM/AM Tuner Unit (WG, EW)	CWE1146	★	47	Button	CAC1998
◎		FM/AM Tuner Unit (ES)	CWE1147	★	48	Button	CAC1833
	15	Plug		★	49	Button	CAC1834
	16	FM Front End (WG, EW)	CWB1037	★	50	Button	CAC1804
		FM Front End (ES)	CWB1039		51	Stopper	
	17	Insulator			52	Spacer	
	18	Antenna Jack	CKX1010		53	Shaft	
	19	Chassis		★	54	Button	CAC1991
	20	Insulator		★	55	Button	CAC1992
	21	Screw	BPZ20P060FMC	★	56	Button	CAC1993
◎	22	Display Unit	CWS1145	★	57	Button	CAC1994
	23	Spacer	CNM1642	★	58	Button	CAC1995
	24	Bush	CNV-724	★	59	Button	CAC1996
★★	25	Lamp	CEL-147	★	60	Button	CAC1997
★★	26	Lamp	CEL1004		61	Grille Assy (WG)	CXA2939
	27	P. C. Board	CNP2094			Grille Assy (EW)	CXA2940
	28	P. C. Board	CNP2093			Grille Assy (ES)	CXA2941
★★	29	Lamp	CEL1115		62	Spring	CBH1215
	30	Housing	CNV2046		63	Door	CAT1187
	31	Lens	CNV2045	64, 65	.....	
	32	Half Mirror	CNM2314		66	Screw	BMZ30P100FMC
	33	LCD	CAW1061		67	Holder	

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
★★	68	IC	TA8215L		109	.....
	69	Heat Sink			110	Cap (WG, EW)	CNS1472
	70	Connector			111	Resistor (WG, EW)	RS-1/2P102JL
	71	Connector		⊙	112	Tuner Amp Unit (WG)	CWM1848
72, 73	.....			⊙		Tuner Amp Unit (EW)	CWM1847
				⊙		Tuner Amp Unit (ES)	CWM1851
	74	Holder			113	Plug	
	75	Plug			114	Connector	
	76	Clamper			115	Cord Assy (WG, EW)	CDE2303
	77	Plug				Cord Assy (ES)	CDE2304
	78	Connector	CKS1265				
	79	Connector	CKS1257		116	Holder (WG, EW)	
	80	Plug			117	Spacer (WG, EW)	
	81	Plug		⊙	118	Handle Assy	CXA2944
	82	Plug			119	Screw	CBA1109
	83	.....			120	Cover	CNS1807
	84	Connector			121	Box	CNB1273
	85	.....			122	Cord Assy (WG, EW)	CDE2300
	86	Plug				Cord Assy (ES)	CDE2301
	87	Plug			123	Screw	CBA1073
	88	Holder			124	Screw	BMZ30P030FMC
★★	89	IC	AN6540		125	Clamper	
	90	Screw	BMZ30P040FMC		126	Air Cushioned Bag	CEG1053
	91	Plug			127	Holder Unit	
	92	Holder			128	Connector	
93—104	.....			★★	129	Switch	CSN-078
	105	Insulator			130	Holder	
	106	Screw	BMZ30P060FMC		131	Screw	CBA-172
	107	.....				
	108	Chassis Unit (WG)					
		Chassis Unit (EW)					
		Chassis Unit (ES)					

• Chassis

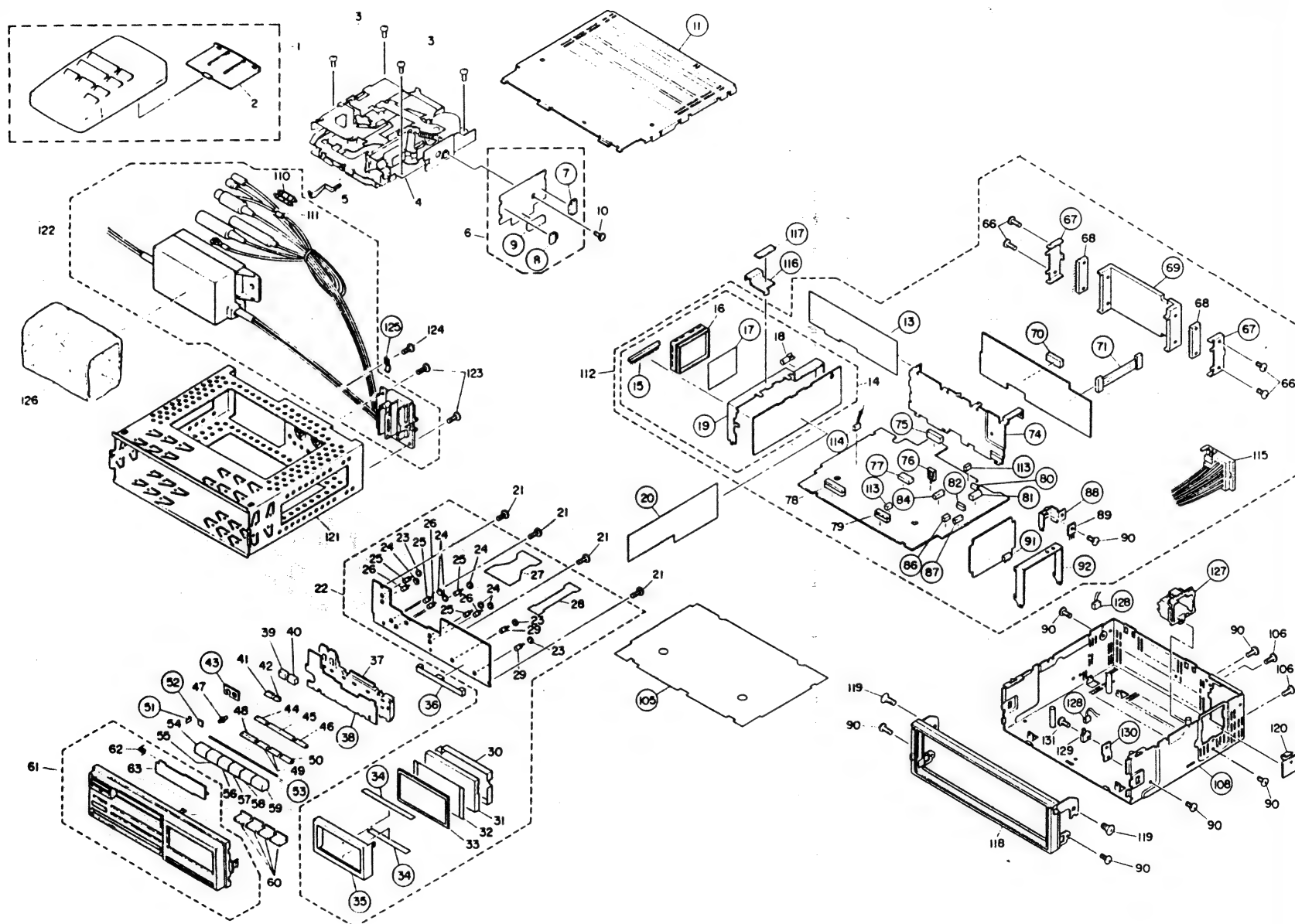


Fig. 19

18. CASSETTE MECHANISM ASSY EXPLODED VIEW

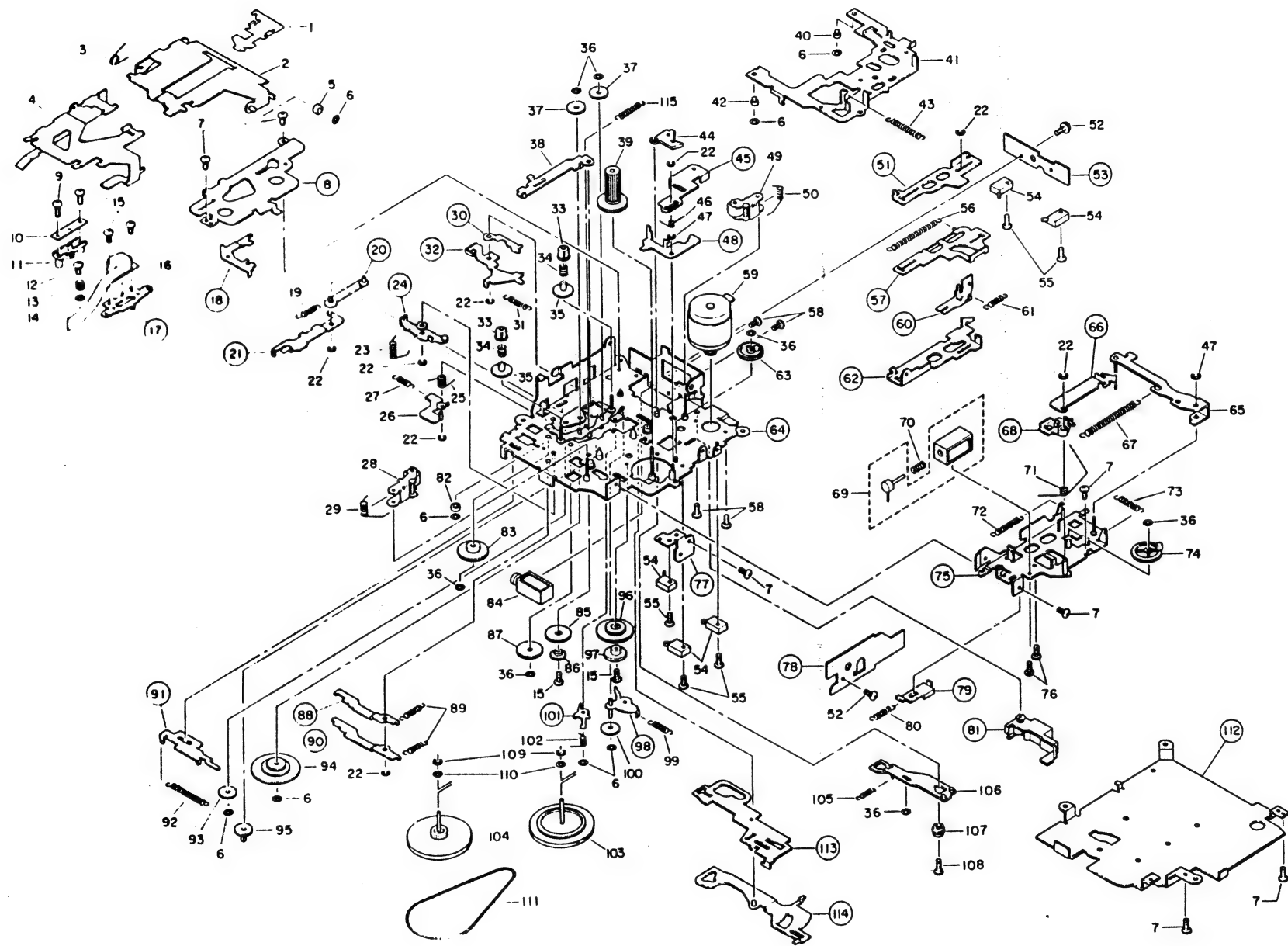


Fig. 20

• Parts List

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Lever	ENV1124		41	Head Base Unit	EXA1071
	2	Arm Unit	EXA1081		42	Roller	ELA1147
	3	Spring	EBH1152		43	Spring	EBH1131
	4	Cassette Holder	ENC1165		44	Arm	ENV1121
	5	Roller	ELA1148		45	Lever Unit	
	6	Washer	CBF1037		46	Spring	EBH1153
	7	Screw	BMZ20P030FMC		47	Washer	YE20FUC
	8	Cover			48	Arm	
	9	Screw	EBA1016	★★	49	Pinch Roller Unit	EXA1072
	10	Spring	EBL1011		50	Spring	EBH1133
	11	Spacer	ENV1105		51	Lever	
	12	Screw	BMZ20P025FMC		52	Screw	CBA1076
	13	Spring	EBH1145		53	P. C. Board	
	14	Washer	EBE1005	★★	54	Switch	CSN1005
	15	Screw	HBA-175		55	Screw	CBA1070
★★	16	Head Unit	EXA1084		56	Spring	EBH1147
	17	Arm			57	Lever	
	18	Arm			58	Screw	PMS20P025FMC
	19	Spring	EBH1143	★★	59	Motor Unit	EXA1089
	20	Lever Unit			60	Lever	
	21	Arm			61	Spring	EBH1149
	22	Washer	YE15FUC		62	Lever	
	23	Spring	EBH1154		63	Gear	ENV1106
	24	Arm Unit			64	Chassis Unit	
	25	Spring	EBH1138		65	Arm Unit	EXA1082
	26	Arm	ENV1122		66	Arm	
	27	Spring	EBH1142		67	Spring	EBH1146
★★	28	Pinch Roller Unit	EXA1073		68	Clamper	
	29	Spring	EBH1134	★	69	Solenoid	EXP1004
	30	Arm			70	Spring	EBH1157
	31	Spring	EBH1144		71	Spring	EBH1151
	32	Arm			72	Spring	EBH1148
	33	Collar	ENV1117		73	Spring	EBH1135
	34	Spring	EBH1155		74	Gear	ENV1118
★★	35	Gear	ENV1116		75	Guide Unit	
	36	Washer	CBF1038		76	Screw	PMS20P022FUC
	37	Gear	ENV1115		77	Bracket	
	38	Lever Unit	EXA1074		78	P. C. Board	
	39	Gear	ENV1107		79	Arm	
	40	Roller	ELA1146		80	Spring	EBH1158

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	81	Clamper			101	Arm	
	82	Roller	ELA1149		102	Spring	EBH1140
	83	Gear	ENV1111		103	Flywheel	ENV1127
★	84	Solenoid	EXP1003		104	Flywheel	ENV1128
	85	Gear	ENV1109		105	Spring	EBH1159
	86	Collar	ELA1152		106	Arm	ENV1119
	87	Gear	ENV1110		107	Collar	ELA1150
	88	Arm			108	Screw	HBA-183
	89	Spring	EBH1136		109	E Type Washer	CBG1003
	90	Arm			110	Washer	HBF-179
	91	Lever		★★	111	Belt	ENT1011
	92	Spring	EBH1137		112	Cover	
	93	Gear	ENV1112		113	Lever	
	94	Gear Unit	EXA1083		114	Arm Unit	
	95	Gear	ENV1113		115	Spring	EBH1139
	96	Gear	ENV1108				
	97	Collar	ELA1151				
	98	Arm Unit					
	99	Spring	EBH1141				
	100	Gear	ENV1114				

19. ELECTRICAL PARTS LIST

NOTE:

- For your parts Stock Control, the fast moving items are indicated with the marks ** and *.

** : GENERALLY MOVES FASTER THAN *.

This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/8S□□□J, RS1/10S□□□J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

Tuner Amp Unit
Consists of
• Mother P. C. Board
• Amp P. C. Board
• Dolby NR P. C. Board

Unit Number :

Unit Name : Tuner Amp Unit

MISCELLANEOUS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.	Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
**	IC	302			HA12134	**	Q	706 (KEH-M5000SDX, KEH-M5000B)		2SC2458	
**	IC	501			LC7218	**	Q	711 712 714 715		DTB123ES	
**	IC	551 552			TA8215L	**	Q	720 725		DTA114ES	
**	IC	601			KHA255B	**	Q	722		DTA143ES	
**	IC	602			μ PC4570C	**	Q	726 727		DTC144ES	
**	IC	701			PD4190	**	Q	750		DTA144ES	
**	IC	702			S-8053ANO	**	Q	801 (KEH-M5000SDX)		2SD1859	
**	IC	703			AN6540	**	Q	802 (KEH-M5000SDX)		2SC2458	
**	IC	802 (KEH-M5000SDX)			KHA142	*	D	501		HZS3R0E82	
**	IC	851 (KEH-M5000SDX, KEH-M5000B)			KHA157	*	D	502 551 552 601 623		DAP209S	
**	IC	851 (KEH-M5000QR)			KHA158	*	D	504 554 555 556 557 608 621 622 650 702		ISS133	
**	IC	852 (KEH-M5000SDX, KEH-M5000B)			μ PC4570HA	*	D	505 701 725		HZS5R6J82	
**	Q	501 516			2SC3113	*	D	553		ERC04-02F	
**	Q	502 (KEH-M5000B, KEH-M5000QR)			DTC144ES	*	D	558		HZS7R5J82	
**	Q	503 505 616 619 713 716 717 721 724			DTC144ES	*	D	559		RD2R7ES82	
**	Q	504 506 510 512 515 609 610 618 703			2SC2458	*	D	602 (KEH-M5000SDX) 603 (KEH-M5000SDX)		DAP209S	
**	Q	507 508 509 615 718 723 741			2SB1243	*	D	605 607		HZS9R1J82	
**	Q	511 611 614 701 719 740			2SD1859	*	D	606		RD4R7JS81	
**	Q	513			2SK330	*	D	703		ISS277	
**	Q	514 (KEH-M5000SDX, KEH-M5000B)			DTC144ES	*	D	704		ERA15-02VH	
**	Q	551 552 553 554			DTC343TS	*	D	705		HZS7LC3	
**	Q	555 556			2SA1048	*	D	706 (KEH-M5000SDX, KEH-M5000B)		ERA15-02VH	
**	Q	601 602			DTC343TS	*	D	707 (KEH-M5000SDX, KEH-M5000B)		ERA15-02VH	
**	Q	603 (KEH-M5000SDX) 604 (KEH-M5000SDX)			DTC343TS	*	D	708		HZS7LC2	
**	Q	605 (KEH-M5000SDX) 606 (KEH-M5000SDX)			DTC343TS	*	D	710 (KEH-M5000SDX, KEH-M5000B)		HZS6R8J81	
**	Q	612			DTC143ES	*	D	711 714 715 716 717 718 723		ISS133	
**	Q	617 (KEH-M5000SDX)			2SC2458	*	D	720 (KEH-M5000SDX)		ISS133	
**	Q	702			2SB945	*	D	722 (KEH-M5000QR)		ISS133	
**	Q	704 707 742			2SC2458	L	501	Forris-Inductor		LAU2R7M	
**	Q	705 (KEH-M5000SDX, KEH-M5000B)			2SB1443	L	502 (KEH-M5000SDX, KEH-M5000B)	Forris-Inductor		LAUR22M	

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
L	701			Ferri-Inductor	LAU101K
IB	501				CWW1272
IB	701				CWW1273
IB	702				CWW1274
IB	703				CWW1277
IB	704				CWW1128
IB	706				CWW1276
IB	707				CWW1049
X	501			Crystal Resonator	CSS1030
X	701			Crystal Resonator	CSS1023
X	801 (KEH-M5000SDK)			Ceramic Resonator	CSS1019
** VR	303 304			Semi-fixed 33kΩ (B)	CCP-381
BZ	502			Buzzer	CPV1006
				FM/AM Tuner Unit (KEH-M5000SDK, KEH-M5000B)	
				FM/AM Tuner Unit (KEH-M5000QR)	

RESISTORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
R	316				RD1/4PS183JL
R	317 318 523 577 623 624				RS1/10S223J
R	501 524 537 721 757 758 759 760				RS1/10S222J
R	502				RD1/4PS104JL
R	503 634				RS1/10S393J
R	504 511 576 613 614 627 628				RS1/10S473J
R	509 510 512 521 522 632				RS1/10S472J
R	513 514 515 517 529 530 532 535 543				RS1/10S102J
R	518				RS1/10S681J
R	519 527				RS1/10S152J
R	520 536 571 633				RS1/10S104J
R	526 572 573 635 636 637				RS1/10S103J
R	528 538 702				RD1/4PS472JL
R	531 555 556 565 566 575				RS1/10S471J
R	533 (KEH-M5000SDK, KEH-M5000B)				RS1/10S222J
R	533 (KEH-M5000QR)				RS1/10S272J
R	534 (KEH-M5000SDK, KEH-M5000B)				RS1/10S222J
R	534 (KEH-M5000QR)				RS1/10S0R0J
R	539				RS1/10S221J
R	540 735				RS1/10S474J
R	541				RS1/10S153J
R	542				RS1/10S183J
R	551 552 561 562				RS1/10S392J
R	553 554 563 564				RS1/10S182J
R	557 558 559 560 567 568 569 570				RD1/4PS4R7JL
R	574 607 608 609 610 611 612				RS1/10S102J
R	601 602				RS1/10S822J
R	603 604 733				RS1/10S182J
R	605 606 615 616 625 626				RS1/10S203J
R	621 622				RS1/10S113J
R	631 642 732 736 751 752 753				RS1/10S102J
R	639				RD1/4PS471JL
R	640 722				RS1/10S223J
R	641 706 714 725 729				RS1/10S472J
R	643 (KEH-M5000SDK)				RS1/10S473J
R	644 (KEH-M5000SDK)				RS1/10S223J
R	701				RD1/4PS270JL
R	703				RD1/4PS220JL
R	704				RD1/4PS152JL
R	705 724				RD1/4PS272JL

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
R	707 709 710 715 737 740 741 744 749				RS1/10S473J
R	708 726				RD1/4PS473JL
R	711 (KEH-M5000SDK, KEH-M5000B)				RS1/10S103J
R	712 (KEH-M5000SDK, KEH-M5000B)				RS1/10S102J
R	713 (KEH-M5000SDK, KEH-M5000B)				RD1/4PS104JL
R	723 745 746 747 748 750				RD1/4PS102JL
R	727 (KEH-M5000SDK, KEH-M5000B)				RS1/10S473J
R	728				RS1/10S124J
R	730				RS1/10S272J
R	742 743 763 764 765 780 781				RS1/10S681J
R	754				RS1/10S102J
R	755 (KEH-M5000SDK, KEH-M5000QR)				RS1/10S102J
R	761 762				RS1/10S222J
R	766 767				RS1/10S682J
R	768 769 770 771 782 783 784				RS1/10S473J
R	785 786				RD1/4PS130JL
R	801 (KEH-M5000SDK)				RD1/4PS102JL
R	802 (KEH-M5000SDK)				RS1/10S103J
R	803 (KEH-M5000SDK)				RS1/10S472J
R	804 (KEH-M5000SDK)				RS1/10S473J
R	805 (KEH-M5000SDK)				RS1/10S222J
R	807 (KEH-M5000SDK)				RS1/10S471J
R	860 (KEH-M5000SDK, KEH-M5000B)				RS1/10S392J
R	861 (KEH-M5000SDK, KEH-M5000B)				RS1/10S182J
R	862 (KEH-M5000SDK, KEH-M5000B)				RS1/10S392J
R	863 (KEH-M5000SDK, KEH-M5000B)				RS1/10S182J
R	864 (KEH-M5000SDK, KEH-M5000B)				RS1/10S474J
R	865 (KEH-M5000SDK, KEH-M5000B)				RS1/10S474J
R	881 (KEH-M5000SDK, KEH-M5000B)				RS1/10S102J

CAPACITORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
C	328 329 332				CEA010M50LS2
C	330 331				CEAR33M50LS2
C	333 334				CQEA224J63
C	335 623 626 851 852 853 854				CEA101M10LS
C	336 514 519 704 705 707				CEA220M16LS
C	501 708 711 720				CKSQYF473225
C	502 503 504 506 507 508 509 510 511 512				CKSQYB103K50
C	505				CKSQYB681K50
C	513 601 602 605 606 613 614 624 628				CEA100M16LS2
C	515 (KEH-M5000SDK, KEH-M5000B)				CEAR47M50LS2
C	516				CKSQYB272K25
C	517 520				CKSQYB103K50
C	518 553 554 565 566				CKSQYB102K50
C	521			4.7μF/16V	CCH1005
C	522 523				CCH1005
C	551 552 563 564				CEHAS4R7M35
C	555 556 567 568 576				CEHAS470M16
C	557 558 559 560 569 570 571 572				CQEA224J63
C	561 573			220μF/16V	CCH1063
C	562 574				CEHAQ471M16
C	575				CKSQYB472K50
C	577				CEHAS100M16
C	580 (KEH-M5000SDK, KEH-M5000B)				CKSQYB103K50
C	581 (KEH-M5000SDK, KEH-M5000B)				CKSQYB103K50
C	603 604 607 608				CEA4R7M35LS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.	Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
C	615	616 617 618			CEA100M16LS2	**	VR	53		Semi-fixed 150k Ω (B)	VRTB4VS154
C	621				CEA101M10L2	**	VR	152		Semi-fixed 6.8k Ω (B)	VRTB4VS682
C	622	627			CEA470M16LS	**	VR	153		Semi-fixed 4.7k Ω (B)	VRTB4VS472
C	625				CEA221M10L2					FM Front End (KEH-M5000SDK, KEH-M5000B)	CWB1037
C	701	702			CEA220M16L2					FM Front End (KEH-M5000QR)	CWB1039
C	703	3300 μ F/16V			CCH1037					RESISTORS	
C	706	(KEH-M5000SDK, KEH-M5000B)			CKSQYF473225						
C	709				CEA010M50L2	Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
C	710	220 μ F/10V			CCH1015						
C	712				CEA2R2M50LS2	R	5	58 210			RS1/10S682J
C	713				CCSQCH090D50	R	6	131			RS1/10S102J
C	714				CCSQCH330J50	R	7	152			RS1/10S223J
C	801	(KEH-M5000SDK) 802 (KEH-M5000SDK)			CEA220M16LS	R	8	10			RS1/10S152J
C	803	(KEH-M5000SDK)			CKSQYB103K50	R	9				RD1/4PS151JL
C	804	(KEH-M5000SDK)			CEAR33M50LS2	R	52				RS1/10S331J
C	805	(KEH-M5000SDK)			CEA470M16LS	R	53	57 204 213			RS1/10S473J
C	806	(KEH-M5000SDK)			CEA4R7M35LS	R	54	103			RS1/10S333J
C	807	(KEH-M5000SDK)			CQEA683J50	R	55	60 215			RS1/10S153J
C	865	(KEH-M5000SDK, KEH-M5000B)			CEA100M16LS2	R	56				RS1/10S123J
C	866	(KEH-M5000SDK, KEH-M5000B)			CEA010M50LS2	R	59				RS1/10S183J
C	867	(KEH-M5000SDK, KEH-M5000B)			CEA100M16LS2	R	61	62 101			RS1/10S472J
C	868	(KEH-M5000SDK, KEH-M5000B)			CEA010M50LS2	R	75				RS1/10S474J
						R	102				RS1/10S392J
						R	156	(KEH-M5000SDK, KEH-M5000B)			RS1/10S332J
Unit Number :						R	156	(KEH-M5000QR) 157 (KEH-M5000QR)			RS1/10S202J
Unit Name : FM/AM Tuner Unit						R	157	(KEH-M5000SDK, KEH-M5000B)			RS1/10S332J
MISCELLANEOUS						R	201				RS1/10S220J
						R	202				RS1/10S681J
						R	203 206 214				RS1/10S222J
Mark	====	Circuit Symbol & No.	====	Part Name	Part No.	R	205 209				RD1/4PS470JL
**	IC	51			LA1140B	R	207				RS1/10S822J
**	IC	101			KHA146	R	208 211 212				RS1/10S103J
**	IC	201			PA4010						
**	Q	1 203 205	Chip Transistor		DTC124EK						
**	Q	51 202	Chip Transistor		2SC2712						
**	Q	71	Chip Transistor		2SJ106						
**	Q	201			2SK435						
*	D	201 202 203 204			ISS133						
*	D	205	Variable Capacitance Diode		SVC263-AB						
L	51		Inductor		LAU150K						
L	201	(KEH-M5000SDK, KEH-M5000B)	Inductor		CTF1084						
L	201	(KEH-M5000QR)	Ferris-Inductor		CTF1026						
L	203		Ferris-Inductor		LAU220K						
L	204		Ferris-Inductor		LAU470K						
L	205		Ferris-Inductor		LAU4R7K						
L	206		Ferris-Inductor		CTF-157						
T	51		Coil		CTC1029						
T	201		Coil		CTB1020						
T	202		Coil		CTB1004						
T	203		Coil		CTB1040						
T	204		Coil		CTE1075						
T	205		Coil		CTE1076						
T	206		Coil		CTE1027						
CG	1		Surge Protector		DSP 201M-500B						
CF	51		Ceramic Filter		CTF-182						
CF	201		Ceramic Filter		CTF1041						
CF	202		Filter		(CTF-1377)						
X	201		Crystal Resonator		CTF1085						
					(CTF-100)						
					CSS1014						

CAPACITORS

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.
C	1	201 209 223 228			CKSQYB103K25
C	2	3			CKSQYB102K50
C	51	52 53 54 59 132 203 215 216 219			CKSQYF473250
C	55	62			CCSQSL330J50
C	56	63			CEAR47M50LS2
C	57				CKSQYB683K25
C	58				CEA010M50LS2
C	60				CCSQSL101J50
C	61				CEA4R7M16WPL1
C	70				CCSQCH200J50
C	103				CEA150M16LS
C	105	224			CEA470M16LS
C	154				CKSQYB153K25
C	159	(KEH-M5000SDK, KEH-M5000B)			CKSQYB183K25
C	159	(KEH-M5000QR) 160 (KEH-M5000QR)			CKSQYB393K25
C	160	(KEH-M5000SDK, KEH-M5000B)			CKSQYB183K25
C	161				CEA101M10LS
C	202	212			CKSQYB332K50
C	204	208 210			CKSQYB272K25
C	205				CCSQCH220J50

Mark ===== Circuit Symbol & No. ---- Part Name Part No. Unit Number :
Unit Name : Display Unit

C 206 207 CCSQCH820J50
C 211 CEA2R2M50LS2
C 213 CCSQCH470J50
C 218 CEA2R2M35NPLL
C 220 CCSQCH430J50

C 221 CCSQCH100D50
C 222 CSZA010K35L
C 225 CKSQYB333K25
C 226 CKSQYF473Z50
C 227 CEA4R7M35LS

C 229 CEA470M16LS
C 230 CEA220M16LS

Mark ===== Circuit Symbol & No. ---- Part Name Part No.
** IC 901 LC7582P
** IC 902 BX-1393
** S 1 2 3 4 5 6 7 8 9 10 Switch CSQ-255
** S 11 12 13 14 15 16 17 18 19 20 Switch CSQ-255
** S 21 22 23 Switch CSQ-255

** IL 1 2 3 Lamp 14V 40mA CEL1004
** IL 4 5 6 7 Lamp 14V 40mA CEL-147
** IL 8 9 Lamp 8V 60mA CEL1117
** IL 10 11 Lamp 8V 60mA CEL1116
** IL 12 13 Lamp 8V 60mA CEL1115

Unit Number :
Unit Name : Mechanism Control Unit

MISCELLANEOUS

Mark ===== Circuit Symbol & No. ---- Part Name Part No.
** IC 1 BA3430FS
** Q 1 Chip Transistor 2SC4116
** Q 2 Chip Transistor DTC143ZU
** Q 3 Chip Transistor DTBL13ZP
** Q 4 6 Chip Transistor 2SC3295

** Q 5 7 Chip Transistor 2SB1441JU

RESISTORS

Mark ===== Circuit Symbol & No. ---- Part Name Part No.
R 1 2 3 4 RS1/10S104J
R 5 6 13 RS1/10S181J
R 7 8 RS1/10S334J
R 9 10 RS1/10S133J
R 11 12 RS1/10S183J

R 14 RS1/10S270J
R 15 RS1/10S823J
R 16 21 26 RS1/10S473J
R 17 RS1/10S333J
R 18 19 RS1/10S224J

R 20 24 25 29 RS1/10S103J
R 22 23 27 28 RS1/8S221J

CAPACITORS

Mark ===== Circuit Symbol & No. ---- Part Name Part No.
C 1 2 3 4 CKSQYB391K50
C 5 6 22 μ F/6.3V CCH1065
C 7 8 14 CKSQYB103K50
C 9 CKSQYB152K50
C 10 12 CKSYB104K25

C 11 6.8 μ F/25V CCH1066
C 13 100 μ F/6.3V CCH1067
C 15 16 4.7 μ F/25V CCH1064

LC0
R 901 902 903 904 CAW1061
R 905 RS1/10S102J
R 906 RS1/10S104J
C 901 RS1/10S470J
CKSQYB223K25

C 902 CCSQCH331J50
C 903 CEA470M6R3LS

Unit Number :
Unit Name : Connector P.C. Board

Mark ===== Circuit Symbol & No. ---- Part Name Part No.
* D 1 2 FISR35-100A
** S 1 2 3 Switch (LOAD, END, F/R) CSN1005

Unit Number :
Unit Name : Switch P.C. Board

Mark ===== Circuit Symbol & No. ---- Part Name Part No.
** S 1 2 Switch (METAL, PLAY) CSN1005

Miscellaneous Parts List

Mark ===== Circuit Symbol & No. ---- Part Name Part No.
** S 602 Switch (O/R) CSN-078
** HD 1 Head Unit EXA1084
** M 1 Motor Unit EXA1089
* SO 1 Solenoid EXP1003
* SO 2 Solenoid EXP1004

20. PACKING METHOD

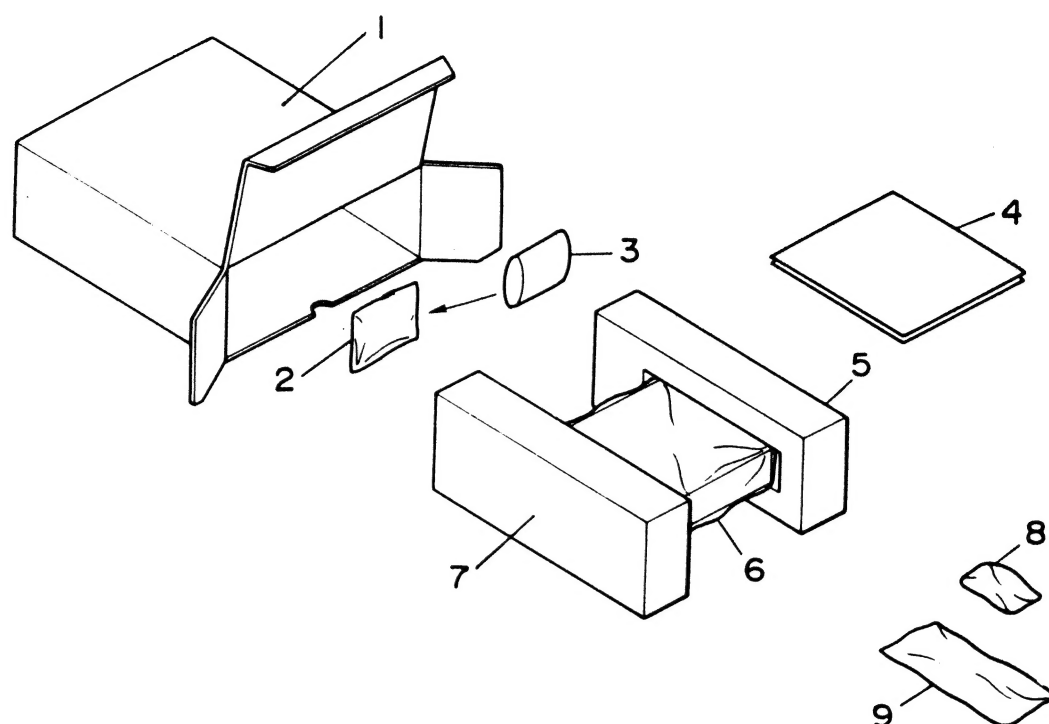


Fig. 21

• Parts List

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
	1	Carton (WG)	CHG1600		7	Styrofoam (L)	CHP1216
		Carton (EW)	CHG1599		8-1	Battery (ES)	CEX1006
		Carton (ES)	CHG1601		8-2	Fastener (ES)	CNM1716
	2	Remote Control Assy (ES)	CXA2958		8-3	Fastener (ES)	CNM1717
						(Soft Surface)	
	2-1	Cover (ES)	CZN3224		8-4	Battery (ES) (Back Up)	CEX1010
	3	Air Cushioned Bag (ES)	CEG1055		9	Accessory Assy	CEA1448
	4-1	Owner's Manual (WG)	CRD1294		9-1	Cord (× 1)	CDE1289
		Owner's Manual (EW)	CRD1290		9-2	Bush (× 1)	CNV1009
		(English, French, German, Spanish)					
		Owner's Manual (EW)	CRD1291		9-3	Strap (× 1)	CNF-111
		(Swedish, Norwegian, Dutch, Finnish)			9-4	Screw (× 1)	CBA-102
		Owner's Manual (ES)	CRD1293		9-5	Screw (× 1)	CBA1002
	4-2	Caution Card			9-6	Nut (× 2)	NF50FMC
	4-3	Caution Card (WG)					
	4-4	Card (WG, EW)					
	4-5	Passport (WG)					
	4-6	Caution Card (ES)					
	5	Styrofoam (R)	CHP1217				
	6	Cover	CEG-114				